MANUAL TRANSMISSION

MT

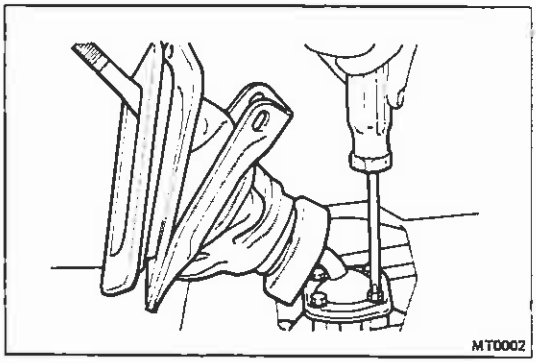
TROUBLESHOOTING

Problem	Possible cause	Remedy	Page
Hard to shift or will not shift	Splines on input shaft dirty or burred Transmission faulty	Repair as necessary Disassemble and inspect transmission	MT-3 MT-7
Transmission jumps out of gear	Transmission faulty	Disassemble and inspect transmission	MT-7

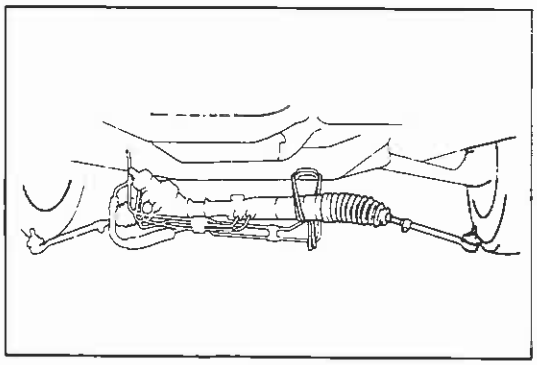
W58 TRANSMISSION

REMOVAL OF TRANSMISSION

1. REMOVE NEGATIVE BATTERY TERMINAL WIRE
2. DRAIN COOLANT FROM UPPER TANK
3. REMOVE UPPER HOSE



4. REMOVE CONSOLE BOX
5. REMOVE SHIFT LEVER FROM INSIDE OF VEHICLE



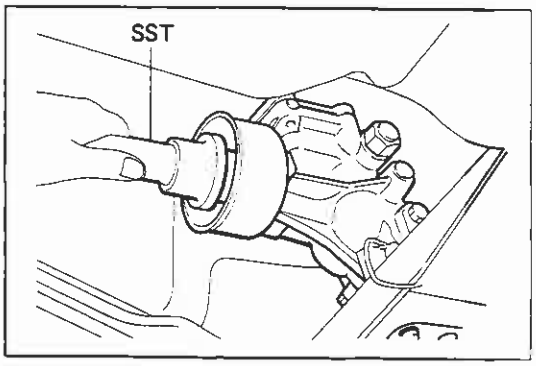
6. RAISE VEHICLE AND DRAIN TRANSMISSION OIL

   CAUTION: Be sure the vehicle is securely supported.

7. REMOVE STEERING GEAR HOUSING (w/PS)

   Remove the steering gear housing without disconnecting return and pressure tube, then suspend it.

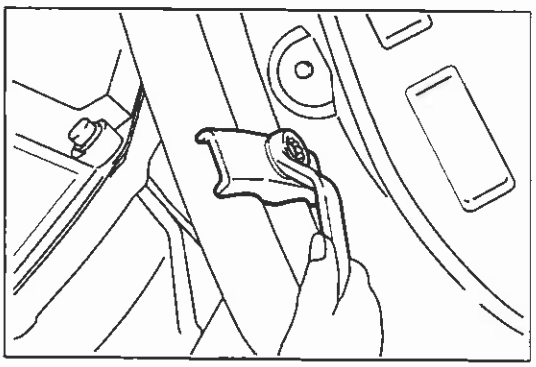
   (See page SR-35)



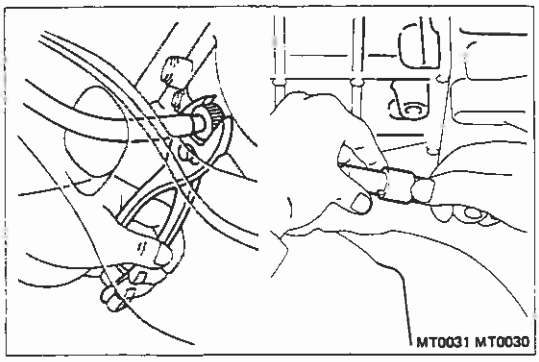
8. REMOVE PROPELLER SHAFT

   Remove the propeller shaft and insert SST into the extension housing.

   SST 09325-20010

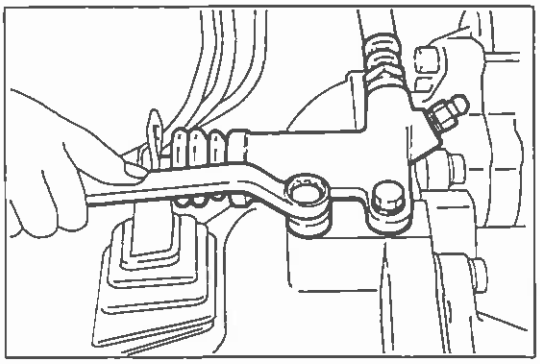


9. REMOVE EXHAUST PIPE CLAMP BOLT

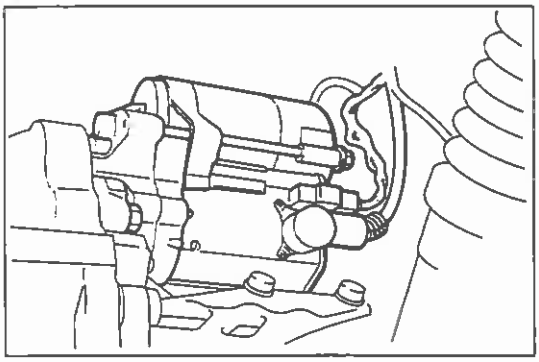


10. REMOVE SPEEDOMETER CABLE

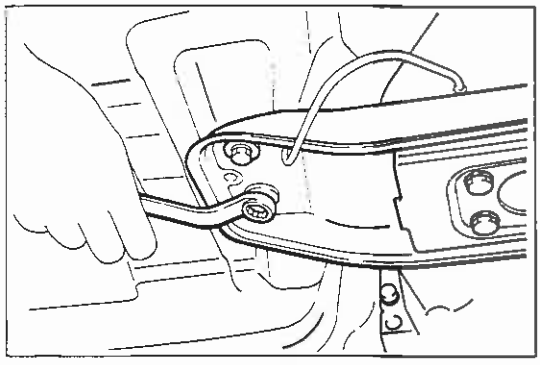
11. DISCONNECT BACK-UP LIGHT SWITCH CONNECTOR



12. REMOVE CLUTCH RELEASE CYLINDER



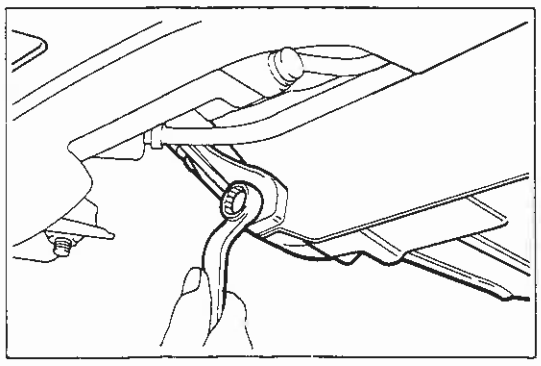
13. REMOVE STARTER



14. JACK UP TRANSMISSION SLIGHTLY

Raise the transmission enough to remove the weight from the rear support.

15. REMOVE ENGINE REAR SUPPORT MEMBER

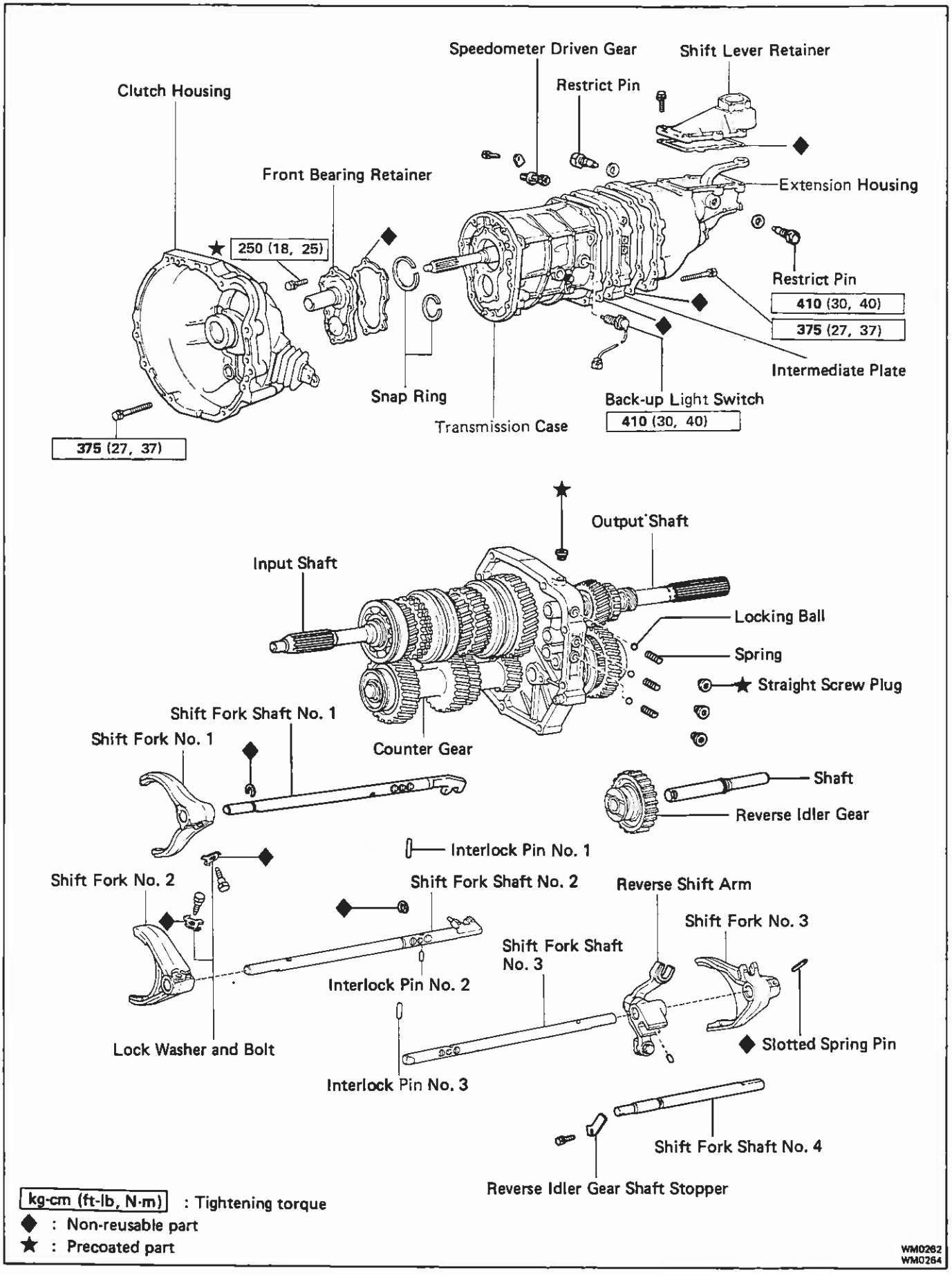


16. REMOVE STIFFENER PLATE AND TRANSMISSION BOLTS

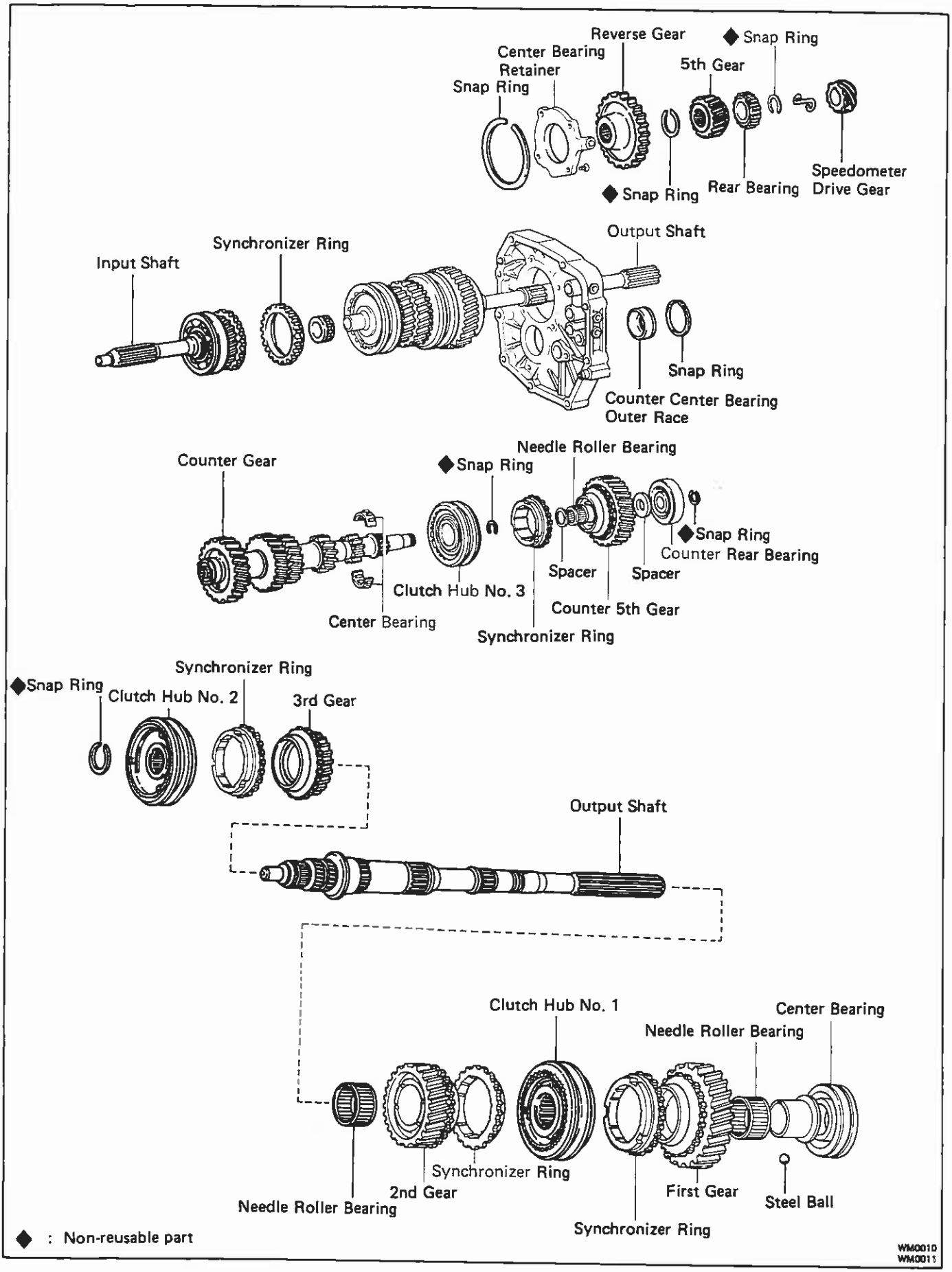
17. REMOVE TRANSMISSION ASSEMBLY

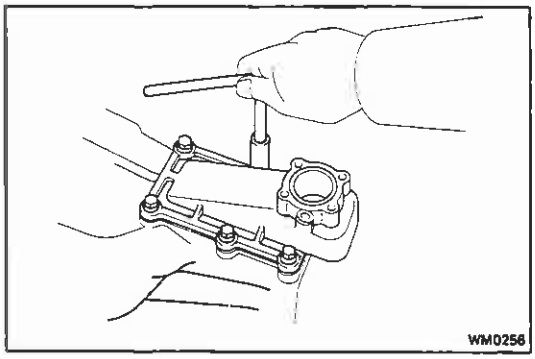
Pull out the transmission down and toward the rear.

COMPONENTS


Speedometer Driven Gear
Shift Lever Retainer
Restrict Pin
Clutch Housing
Front Bearing Retainer
Extension Housing
★ 250 (18, 25)
Restrict Pin
410 (30, 40)
375 (27, 37)
Intermediate Plate
Snap Ring
Transmission Case
Back-up Light Switch
410 (30, 40)
375 (27, 37)
Output Shaft
Input Shaft
Locking Ball
Spring
★ Straight Screw Plug
Shift Fork Shaft No. 1
Shift Fork No. 1
Counter Gear
Shaft
Reverse Idler Gear
Interlock Pin No. 1
Shift Fork No. 2
Shift Fork Shaft No. 2
Reverse Shift Arm
Shift Fork No. 3
Shift Fork Shaft No. 3
Interlock Pin No. 2
Lock Washer and Bolt
◆ Slotted Spring Pin
Interlock Pin No. 3
Shift Fork Shaft No. 4
Reverse Idler Gear Shaft Stopper
kg-cm (ft-lb, N·m) : Tightening torque
◆ : Non-reusable part
★ : Precoated part
WM0262
WM0264

COMPONENTS (Cont'd)

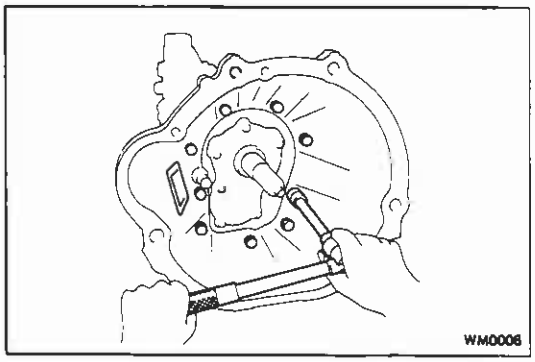




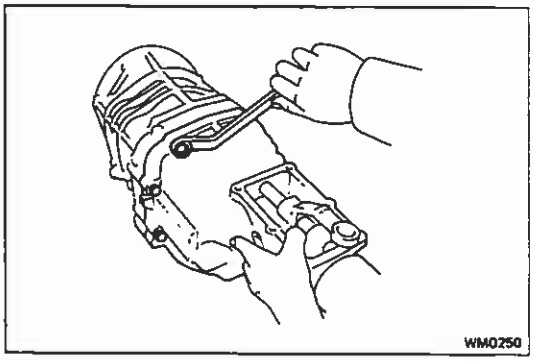
DISASSEMBLY OF TRANSMISSION

(See pages MT-5, 6)

1. **REMOVE BACK-UP LIGHT SWITCH, SPEEDOMETER DRIVEN GEAR, SHIFT LEVER RETAINER AND RESTRICT PINS**

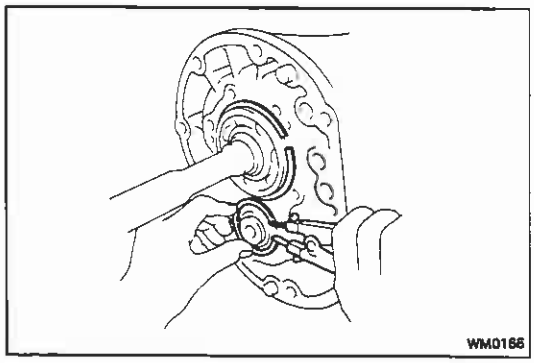


2. **REMOVE CLUTCH HOUSING FROM TRANSMISSION CASE**

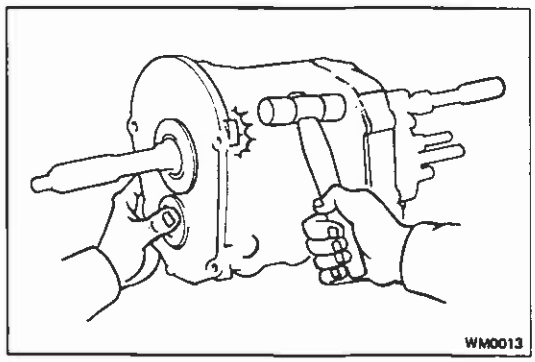


3. **REMOVE EXTENSION HOUSING**
   (a) Remove the shift lever housing set bolt.
   (b) Remove the nine bolts.
   (c) Using a plastic hammer, tap the extension housing.
   (d) Disengage the shift and select lever from the shift head.
   (e) Pull out the extension housing.

   NOTE: Leave the gasket attached to the intermediate plate.

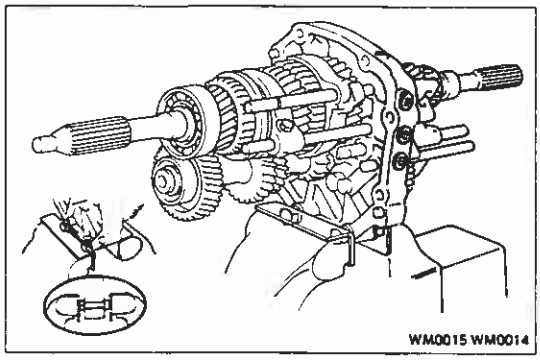


4. **REMOVE FRONT BEARING RETAINER AND TWO BEARING SNAP RINGS**



5. **SEPARATE INTERMEDIATE PLATE FROM TRANSMISSION CASE**
   (a) Using a plastic hammer, carefully tap the transmission case.
   (b) Pull the transmission case from the intermediate plate.

   NOTE: Leave the gasket attached to the intermediate plate.

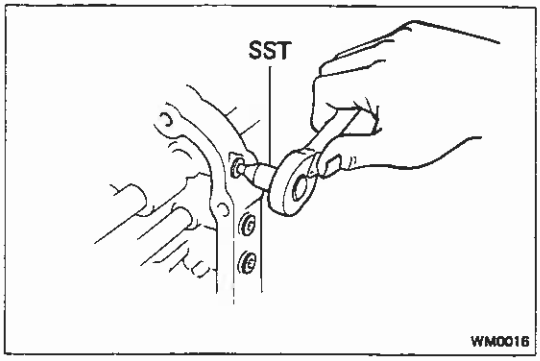


6. **MOUNT INTERMEDIATE PLATE IN VISE**

(a) Use two long clutch housing bolts, plate washers and suitable nuts as shown.

CAUTION: Install the plate washers in reverse of normal. Increase or decrease plate washers so that the bolt tip and the front tip surface of the nut are aligned.

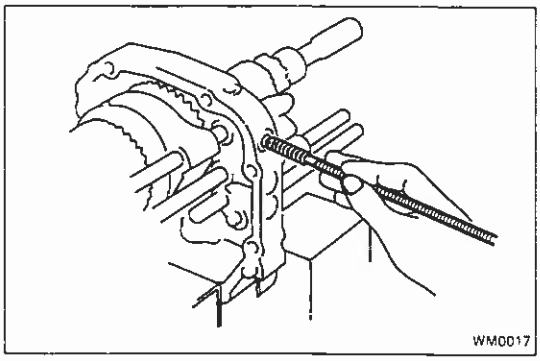
(b) Mount the intermediate plate in a vise.



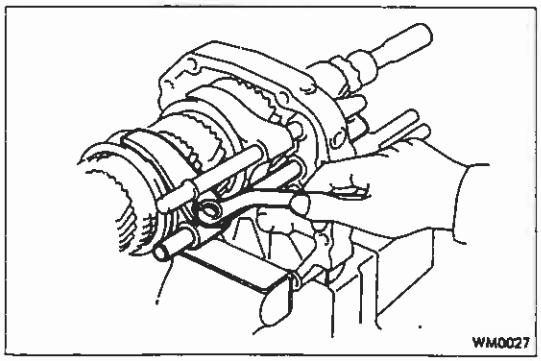
7. **REMOVE LOCKING BALL AND SPRING**

(a) Using SST, remove the four plugs.

SST 09313-30021

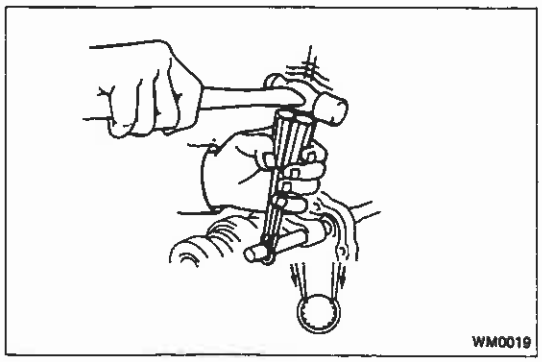


(b) Using a magnetic finger, remove the three springs and balls.

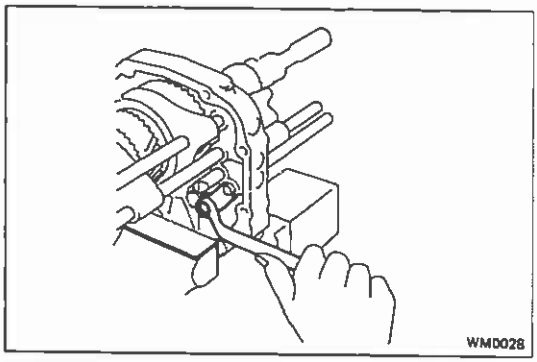


8. **REMOVE SHIFT FORKS, SHIFT FORK SHAFTS AND REVERSE IDLER GEAR**

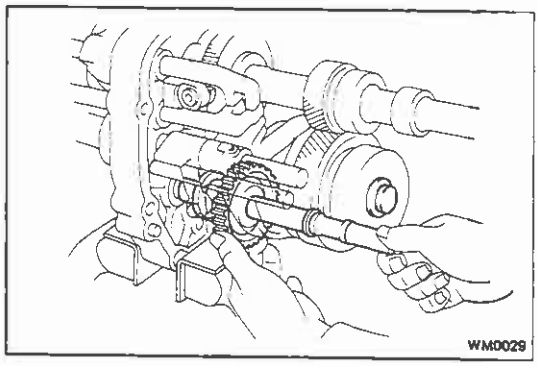
(a) Pry out the lock washers of shift fork No. 1 and No. 2, and remove the two set bolts.



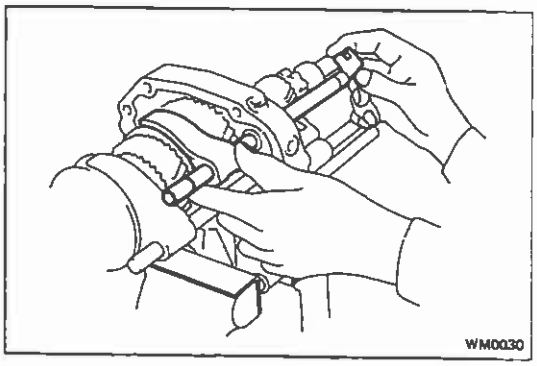
(b) Using two screwdrivers and a hammer, tap out the two snap rings of the No. 1 and No. 2 fork shafts.



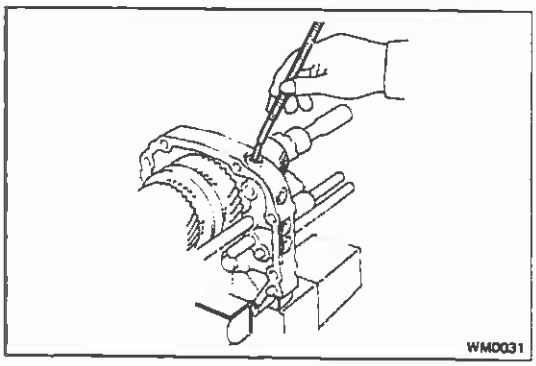
(c) Remove the reverse idler gear stopper.



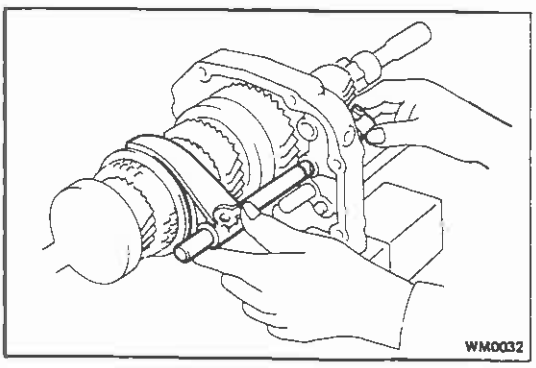
(d) Remove the reverse idler gear and shaft.



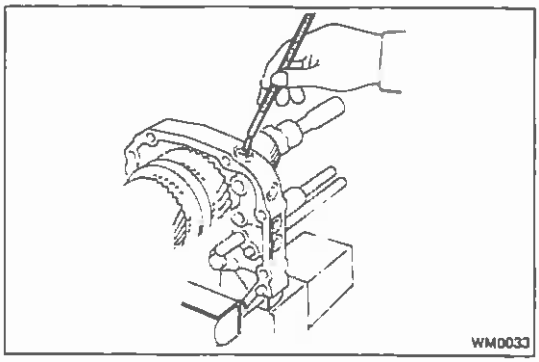
(e) Remove the shift fork and shaft No. 1.



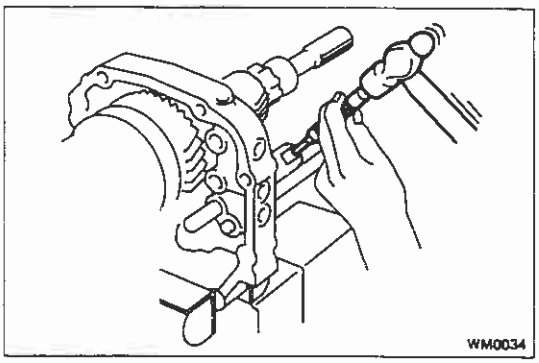
(f) Using a magnetic finger, remove the No. 1 and No. 2 interlock pins.



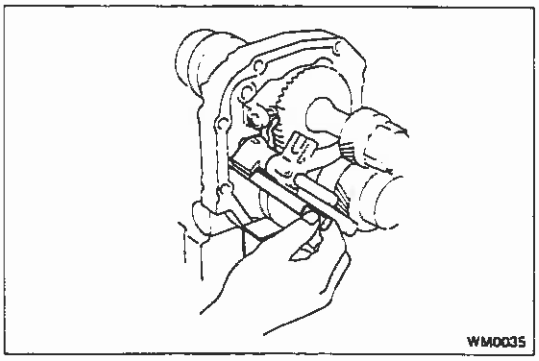
(g) Remove the shift fork and shaft No. 2.



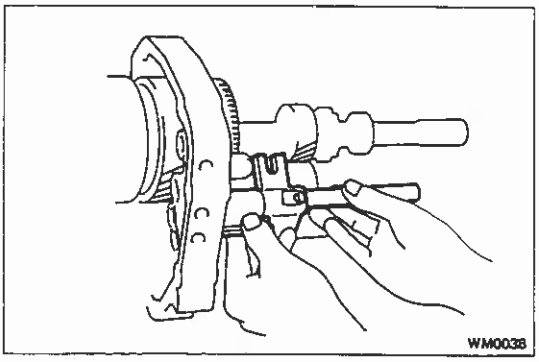
(h) Using a magnetic finger, remove the interlock pin No. 3.



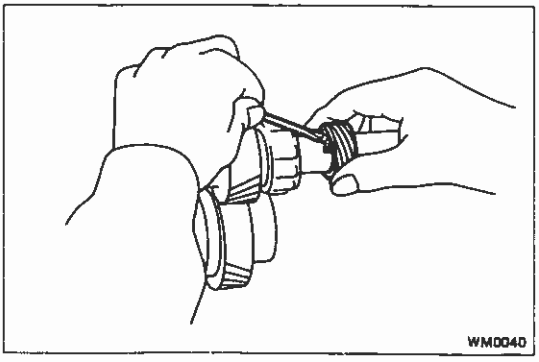
(i) Using a pin punch and hammer, drive out the No. 3 fork shaft pin.



(j) Pull out shift fork shaft No. 4.

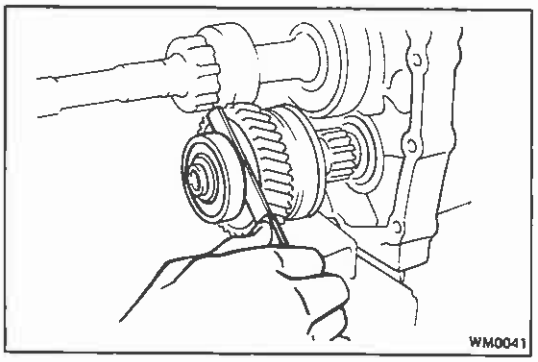


(k) Remove shift fork No. 3, fork shaft No. 3 and reverse shift arm with the pin.



9. REMOVE SPEEDOMETER DRIVE GEAR

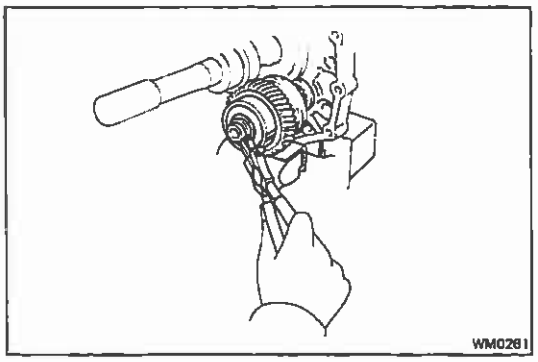
Pry out both ends of the clip and remove the drive gear.



10. MEASURE COUNTER FIFTH GEAR THRUST CLEARANCE

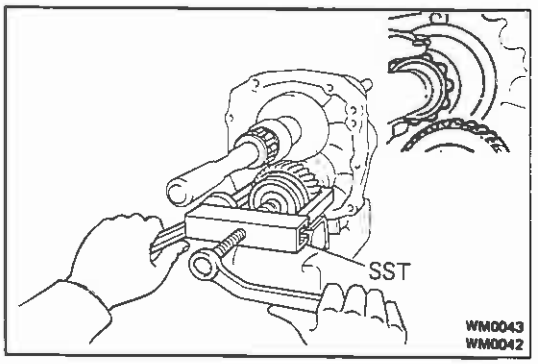
Using a feeler gauge, measure the counter 5th gear thrust clearance.

Standard clearance: 0.10 – 0.41 mm (0.004 – 0.016 in.)
Maximum clearance: 0.46 mm (0.018 in.)



11. REMOVE COUNTER REAR BEARING, SPACER, COUNTER FIFTH GEAR AND NEEDLE ROLLER BEARING

(a) Using snap ring pliers, remove the snap ring.

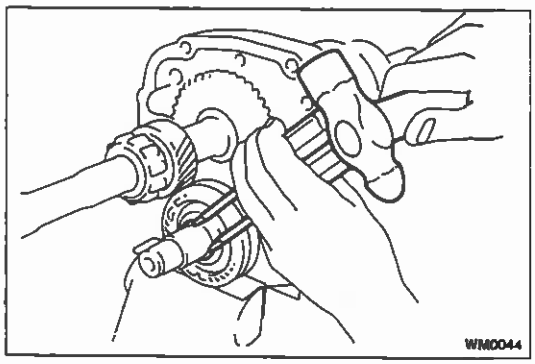


(b) Using SST, remove the rear bearing, spacer, 5th gear and bearing.

SST 09213-36020

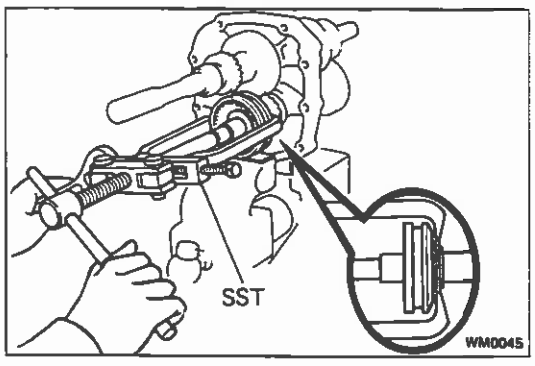
CAUTION: Be careful not to catch the output shaft rear bearing roller on the counter 5th gear.

(c) Remove the spacer.



12. REMOVE HUB SLEEVE NO. 3 ASSEMBLY

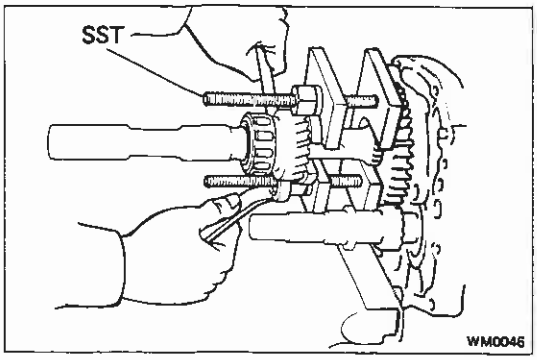
(a) Using two screwdrivers and a hammer, tap out the snap ring.



(b) Using SST, remove clutch hub No. 3.

SST 09950-20015

CAUTION: Latch the claw of the SST onto the clutch hub, not the shifting key retainer.

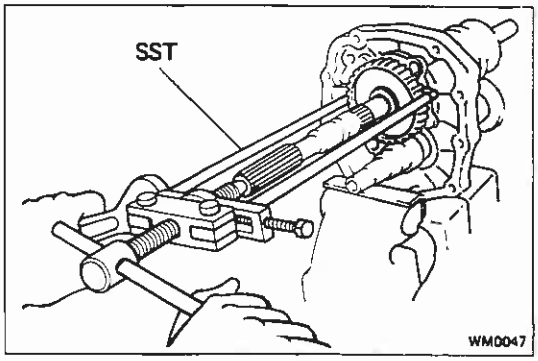


13. REMOVE OUTPUT SHAFT REAR BEARING AND FIFTH GEAR

(a) Using two screwdrivers and a hammer, tap out the snap ring.

(b) Using SST, remove the rear bearing and 5th gear.

SST 09312-20011

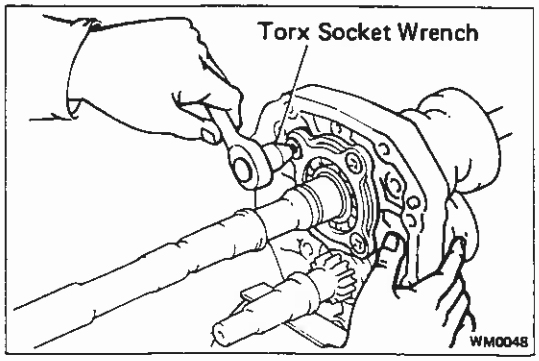


14. REMOVE REVERSE GEAR

(a) Using snap ring pliers, remove the snap ring.

(b) Using SST, remove the reverse gear.

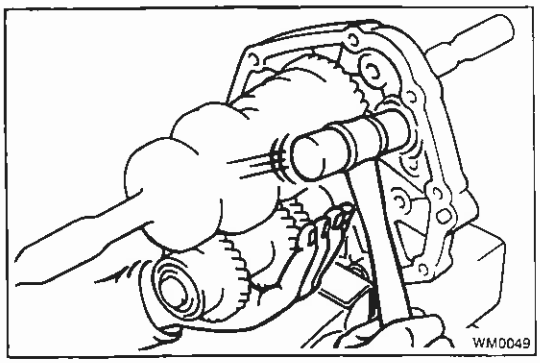
SST 09950-20015



15. REMOVE CENTER BEARING RETAINER

(a) Using a torx socket wrench, unscrew the torx screws and remove the retainer.

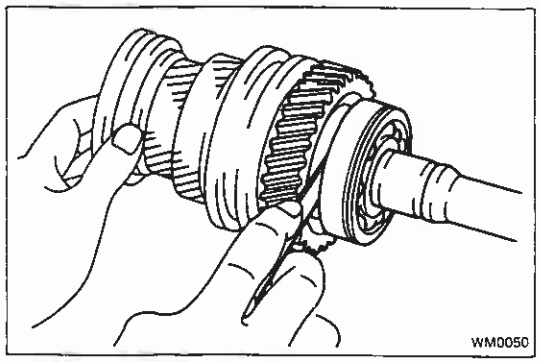
(b) Using snap pliers, remove the snap ring.



16. REMOVE OUTPUT SHAFT AND COUNTER GEAR AS A UNIT FROM INTERMEDIATE PLATE

(a) Remove the output shaft, input shaft and counter gear as a unit from the intermediate plate by pulling on the counter gear and tapping on the intermediate plate with a plastic hammer.

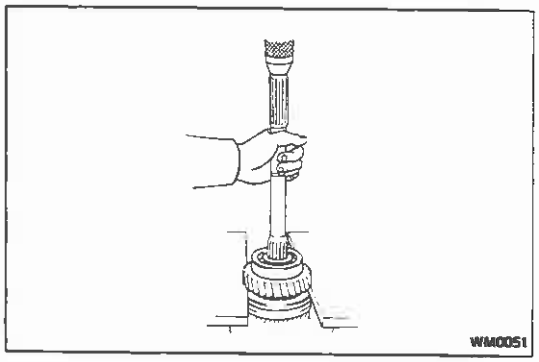
(b) Remove the input shaft from output shaft.



17. MEASURE EACH GEAR THRUST CLEARANCE

Using a feeler gauge, measure the thrust clearance of each gear.

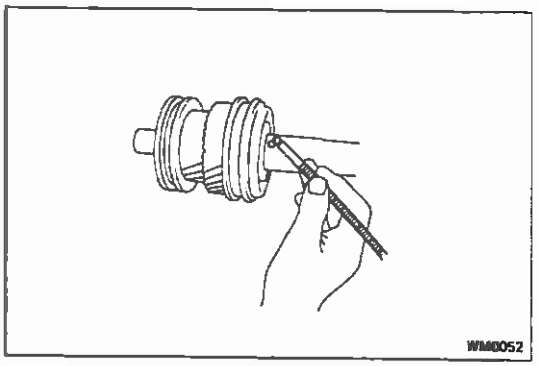
Standard clearance: 0.10 — 0.25 mm (0.004 — 0.010 in.)
Maximum clearance: 0.30 mm (0.012 in.)



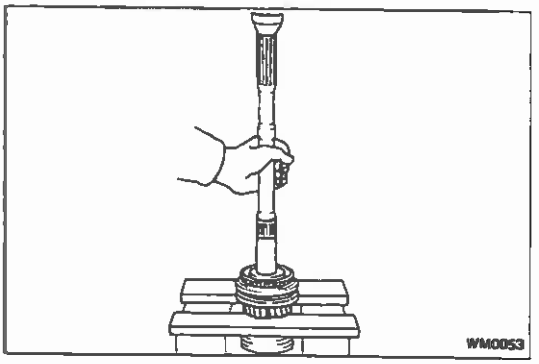
18. REMOVE OUTPUT SHAFT CENTER BEARING AND FIRST GEAR ASSEMBLY

(a) Shift hub sleeve No. 1 onto the 2nd gear.

(b) Using a press, remove the center bearing, 1st gear, needle roller bearing, inner race and synchronizer ring.

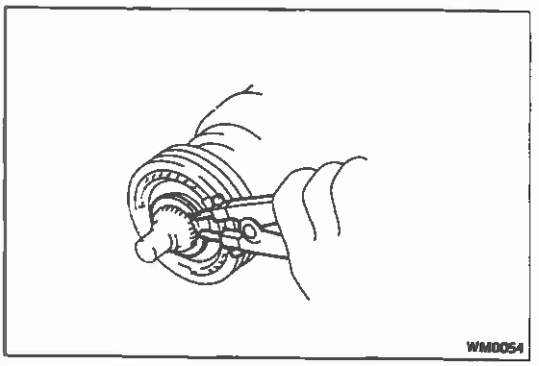


19. REMOVE LOCKING BALL



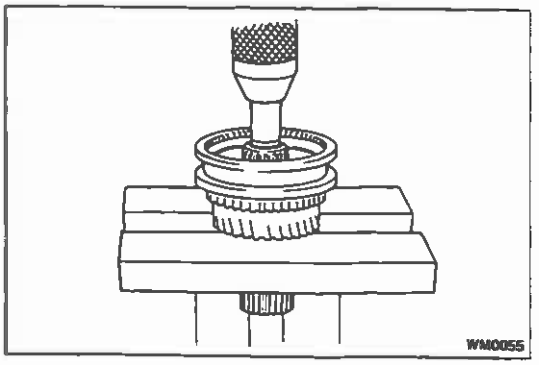
20. REMOVE HUB SLEEVE NO. 1 ASSEMBLY, SECOND GEAR AND NEEDLE ROLLER BEARING

Using a press, remove the parts from the shaft as an assembly.

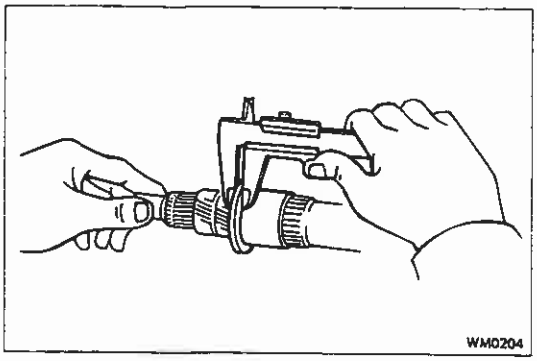


21. REMOVE HUB SLEEVE NO. 2 ASSEMBLY AND THIRD GEAR

(a) Using snap ring pliers, remove the snap ring.



(b) Using a press, remove hub sleeve No. 2, the synchronizer ring and 3rd gear.

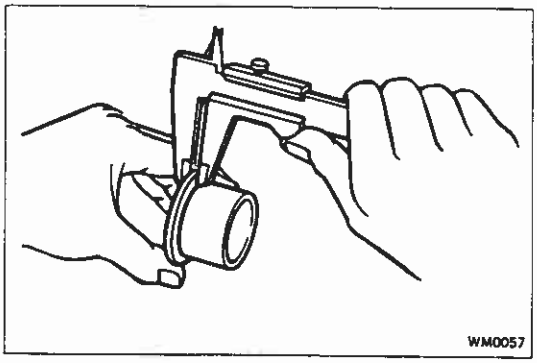


INSPECTION OF TRANSMISSION COMPONENTS

1. INSPECT OUTPUT SHAFT AND INNER RACE

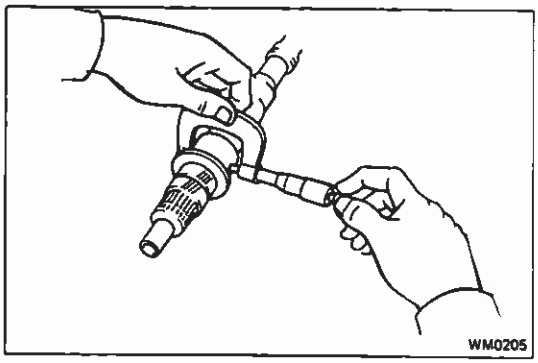
(a) Using calipers, measure the output shaft flange thickness.

Minimum thickness: 5.60 mm (0.2205 in.)



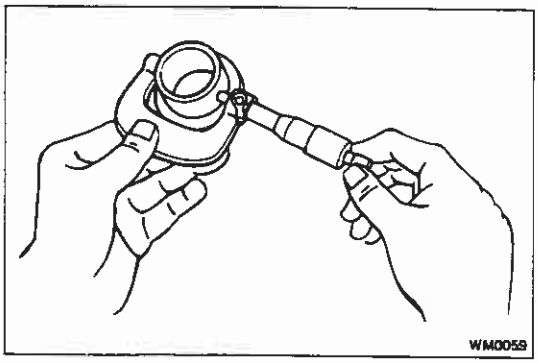
(b) Using calipers, measure the inner race flange thickness.

Minimum thickness: 4.70 mm (0.1850 in.)



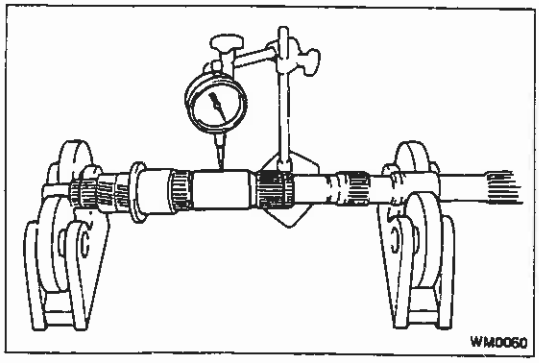
(c) Using a micrometer, measure the outer diameter of the output shaft journal.

Minimum diameter:
2nd gear 42.85 mm (1.6870 in.)
3rd gear 37.80 mm (1.4882 in.)



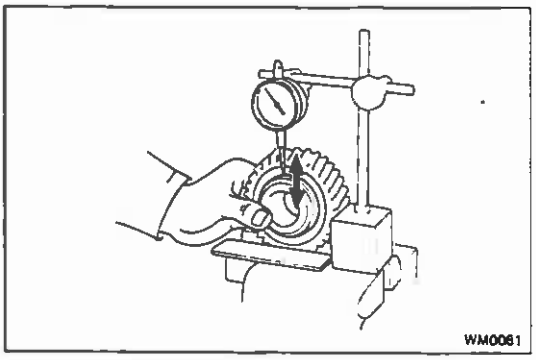
(d) Using a micrometer, measure the outer diameter of the inner race.

Minimum diameter: 42.85 mm (1.6870 in.)



(e) Using a dial indicator, check the shaft runout.

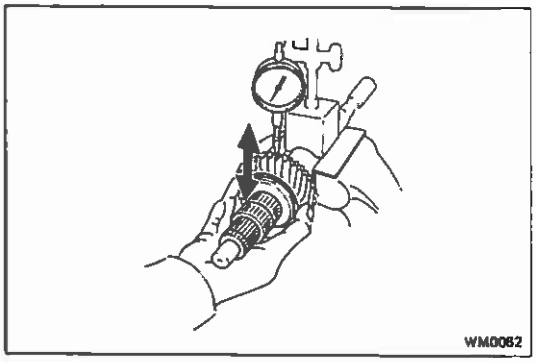
Maximum runout: 0.06 mm (0.0024 in.)



2. **CHECK OIL CLEARANCE OF FIRST GEAR**

Using a dial indicator, measure the oil clearance between the gear and inner race with the needle roller bearing installed.

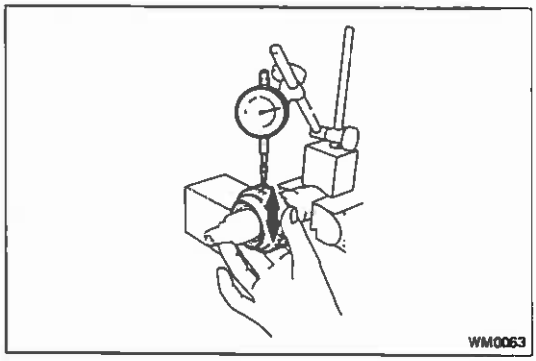
Standard clearance: 0.009 — 0.060 mm (0.0004 — 0.0024 in.)
Maximum clearance: 0.15 mm (0.0059 in.)



3. **CHECK OIL CLEARANCE OF SECOND AND COUNTER FIFTH GEAR**

Using a dial indicator, measure the oil clearance between the gear and output shaft with the needle roller bearing installed.

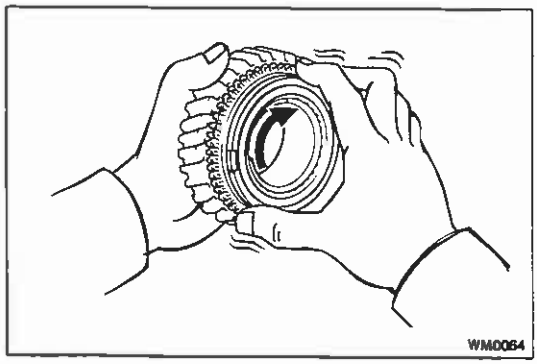
Standard clearance:
2nd gear 0.009 — 0.060 mm (0.0004 — 0.0024 in.)
5th gear 0.009 — 0.062 mm (0.0004 — 0.0024 in.)
Maximum clearance: 0.15 mm (0.0059 in.)



4. **CHECK OIL CLEARANCE OF THIRD GEAR**

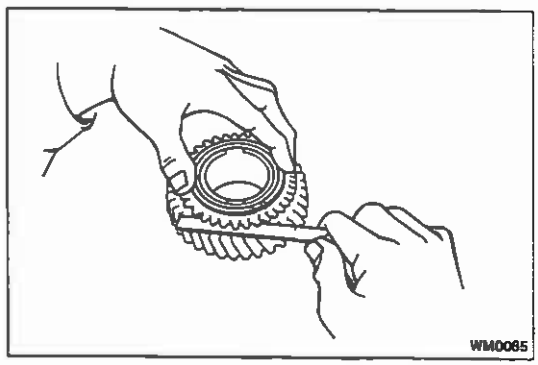
Using a dial indicator, measure the oil clearance between the gear and output shaft.

Standard clearance: 0.060 — 0.103 mm (0.0024 — 0.0041 in.)
Maximum clearance: 0.20 mm (0.0079 in.)



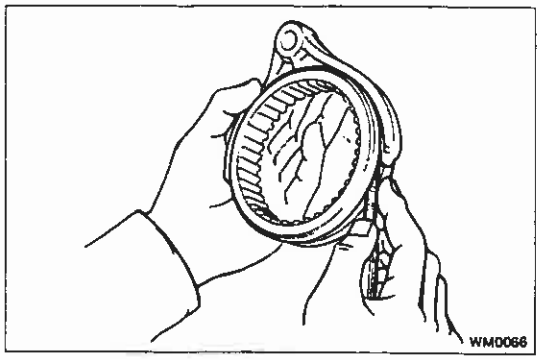
5. **INSPECT SYNCHRONIZER RINGS**

(a) Turn the ring and push it in to check the braking action.



(b) Measure the clearance between the synchronizer ring back and the gear spline end.

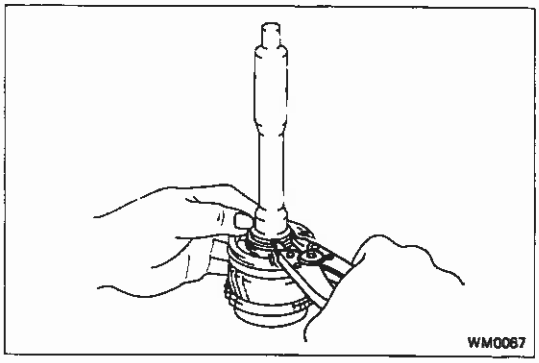
Standard clearance: 0.7 — 1.7 mm (0.028 — 0.067 in.)
Minimum clearance: 0.5 mm (0.020 in.)



6. MEASURE CLEARANCE OF SHIFT FORKS AND HUB SLEEVES

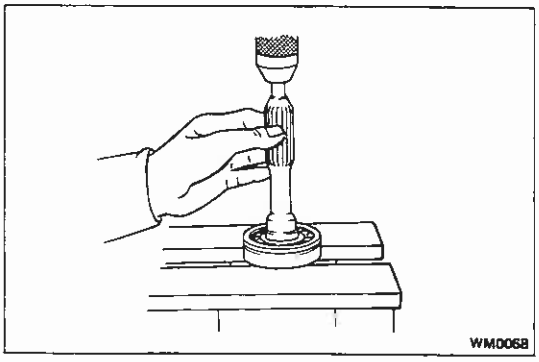
Using a feeler gauge, measure the clearance between the hub sleeve and shift fork.

Maximum clearance: 1.0 mm (0.039 in.)

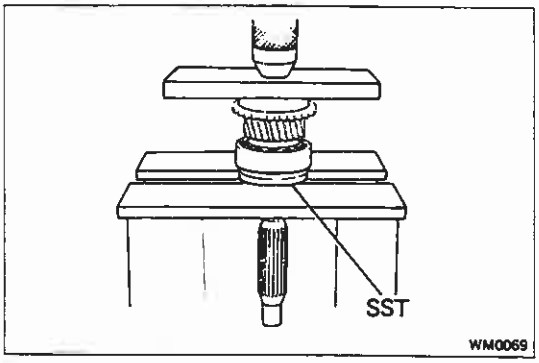


7. IF NECESSARY, REPLACE INPUT SHAFT BEARING

(a) Using snap ring pliers, remove the snap ring.

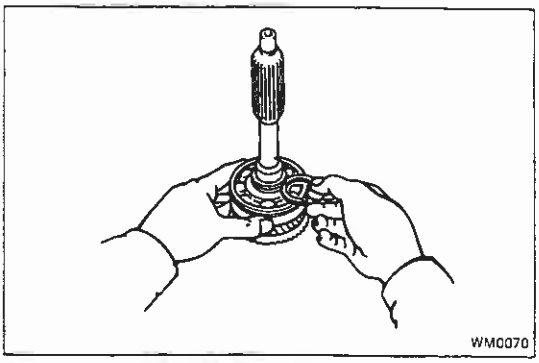


(b) Using a press, remove the bearing.



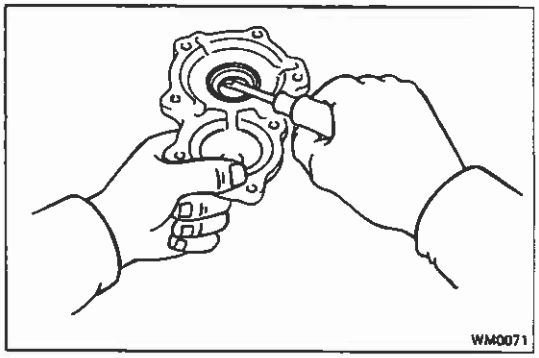
(c) Using a press and SST, install a new bearing.

SST 09506-35010



(d) Select a snap ring that will allow minimum axial play and install it on the shaft.

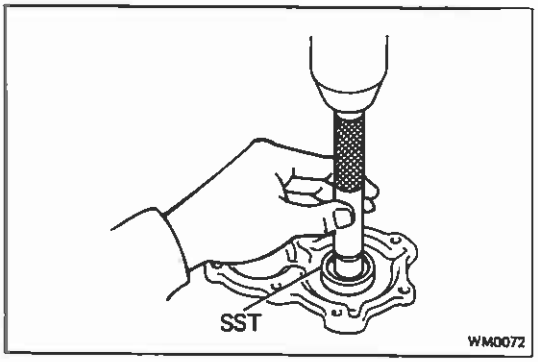
Mark	Thickness	mm (in.)
1	2.05 – 2.10	(0.0807 – 0.0827)
2	2.10 – 2.15	(0.0827 – 0.0846)
3	2.15 – 2.20	(0.0846 – 0.0866)
4	2.20 – 2.25	(0.0866 – 0.0886)
5	2.25 – 2.30	(0.0886 – 0.0906)
11	2.30 – 2.35	(0.0906 – 0.0925)
12	2.35 – 2.40	(0.0925 – 0.0945)



8. INSPECT FRONT BEARING RETAINER

Check the retainer and oil seal for wear or damage. If the oil seal is worn or damaged, replace it as follows.

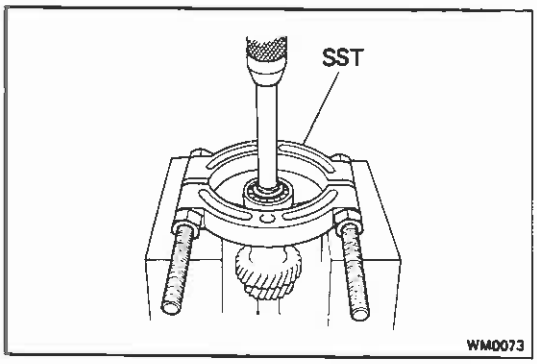
(a) Using a screwdriver, pry out the oil seal.



(b) Using SST, press in the oil seal.

SST 09608-20011

Oil seal depth: 11.4 — 12.0 mm from retainer end (0.449 — 0.472 in.)



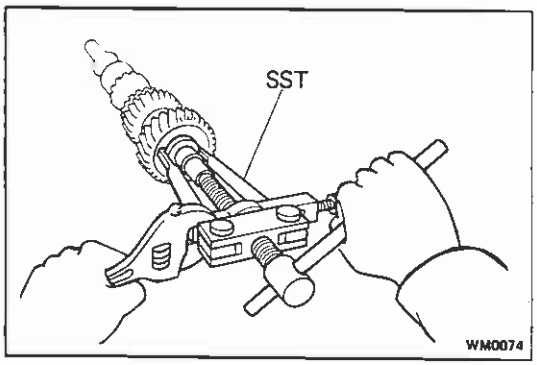
9. IF NECESSARY, REPLACE COUNTER GEAR FRONT BEARING AND SIDE RACE

(a) Using snap ring pliers, remove the snap ring.

(b) Using a press and SST, press out the bearing.

SST 09950-00020

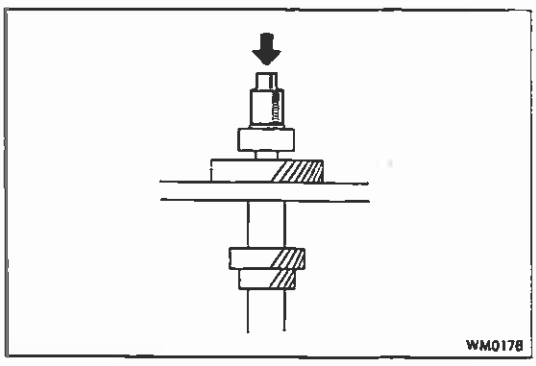
(c) Check the side race for wear or damage.



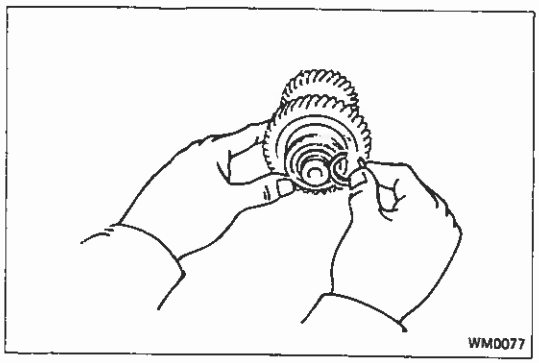
(d) If necessary, remove the side race.

Using a SST and socket wrench, remove the side race.

SST 09950-20016

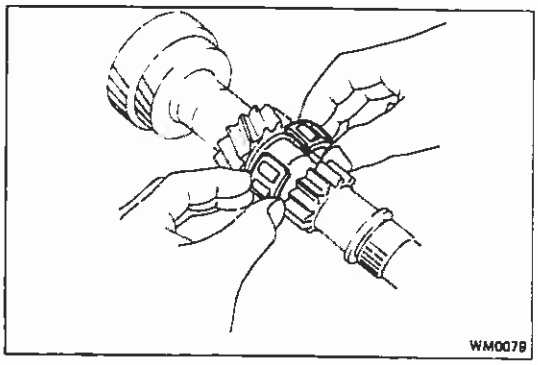


(e) Using a socket wrench, press in the bearing, side race and inner race.



(f) Select a snap ring that will allow minimum axial play and install it on the shaft.

Mark	Thickness	mm (in.)
1	2.05 – 2.10	(0.0807 – 0.0827)
2	2.10 – 2.15	(0.0827 – 0.0846)
3	2.15 – 2.20	(0.0846 – 0.0866)
4	2.20 – 2.25	(0.0866 – 0.0886)
5	2.25 – 2.30	(0.0886 – 0.0906)
6	2.30 – 2.35	(0.0906 – 0.0925)
7	2.35 – 2.40	(0.0925 – 0.0945)

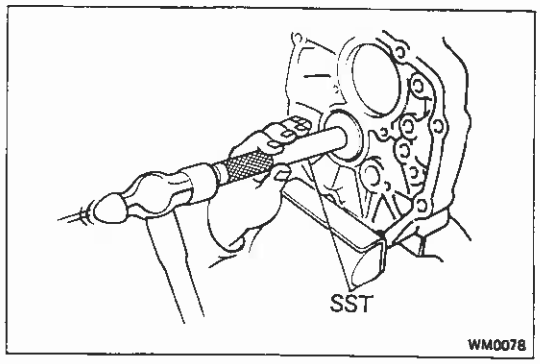


10. IF NECESSARY, REPLACE COUNTER GEAR CENTER BEARING

(a) Remove the bearing from the counter gear.

(b) Install the new bearing on the counter gear.

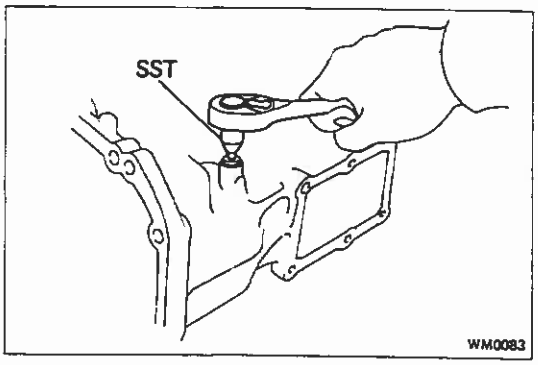
NOTE: Engage the roller cages.



(c) Using SST, tap out the bearing outer race.

SST 09608-35013

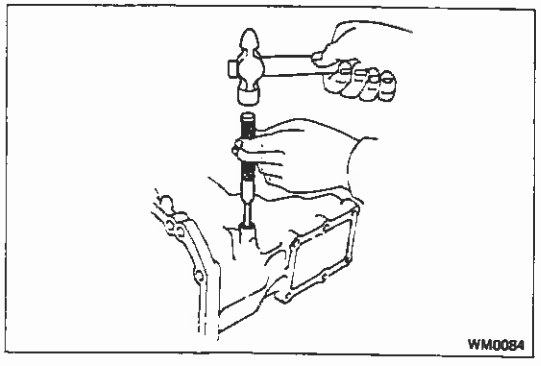
NOTE: The outer race will be installed later as the transmission is assembled.



11. IF NECESSARY, REPLACE REVERSE RESTRICT PIN

(a) Using SST, remove the screw plug.

SST 09313-30021



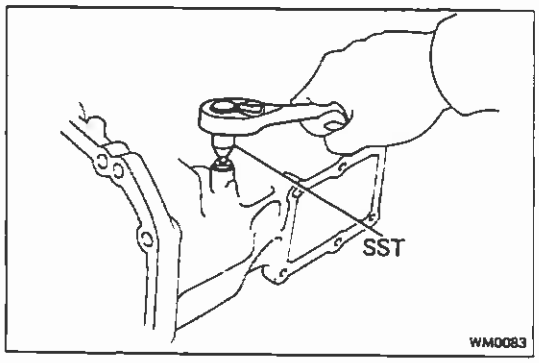
(b) Using a pin punch and hammer, drive out the slotted spring pin.

(c) Pull off the lever housing and slide out the shaft.

(d) Install the lever housing.

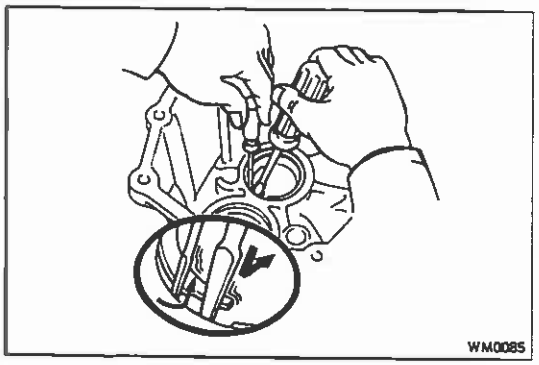
(e) Using a pin punch and hammer, drive in the slotted spring pin.

(f) Apply liquid sealer to the plug.



(g) Install and torque the screw plug.

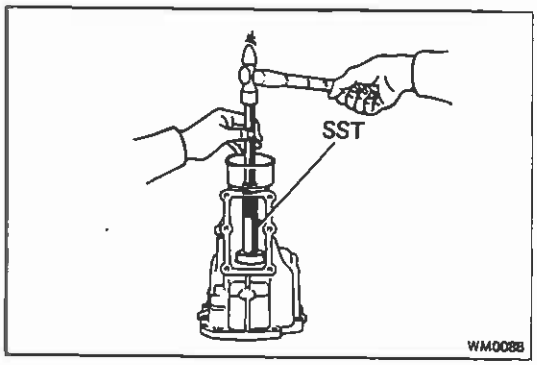
Torque: 250 kg-cm (18 ft-lb, 25 N·m)



12. IF NECESSARY, REPLACE BEARING AND OUTER RACE

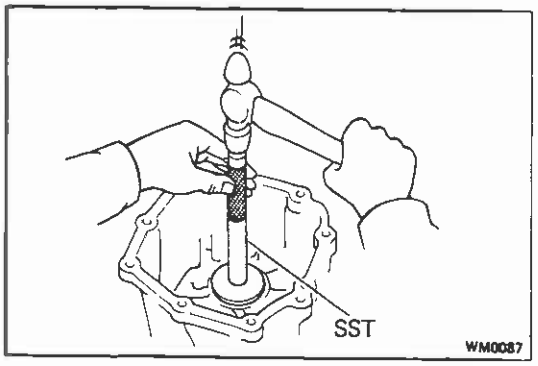
(a) Remove the outer race from the extension housing.

(1) Using two screwdrivers, remove the snap ring.



(2) Using SST, tap out the outer race.

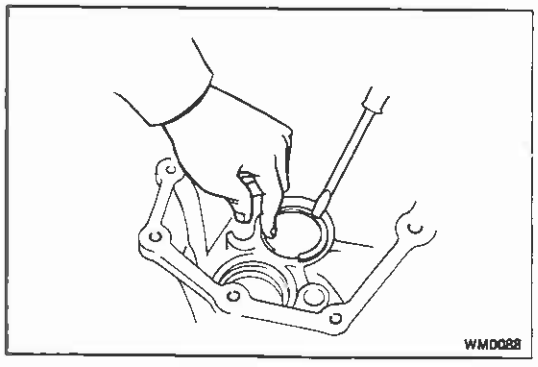
SST 09608-35013



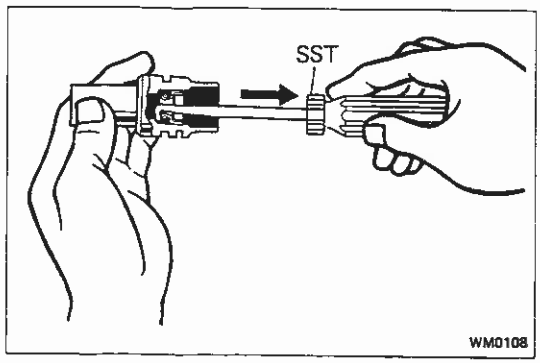
(b) Install the bearing outer race.

(1) Using SST, install a new outer race.

SST 09608-35013



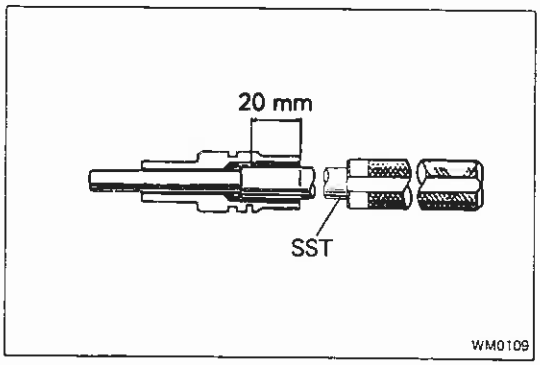
(2) Install the snap ring.



13. **REPLACE OIL SEAL ON SPEEDOMETER DRIVEN GEAR**

(a) Using SST, remove the oil seal.

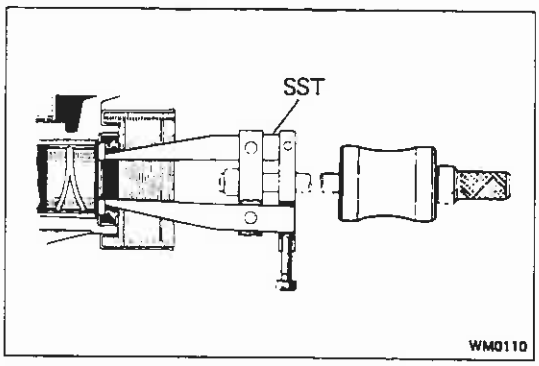
SST 09921-00010



(b) Using SST, install a new oil seal.

SST 09201-60011

Oil seal depth: 20 mm (0.79 in.)

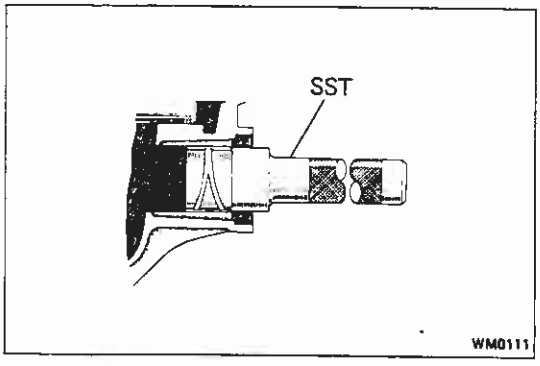


14. **IF NECESSARY, REPLACE OIL SEAL AND BUSHING**

(a) Using SST, remove the oil seal.

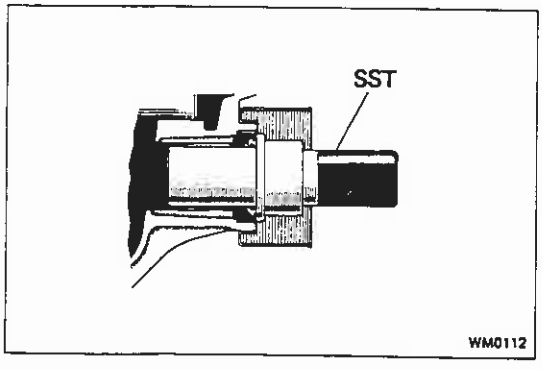
SST 09308-00010 or
09308-10010 w/ output shaft installed

(b) Heat the extension housing end to 80 — 100°C (176 — 212°F) in an oil bath.



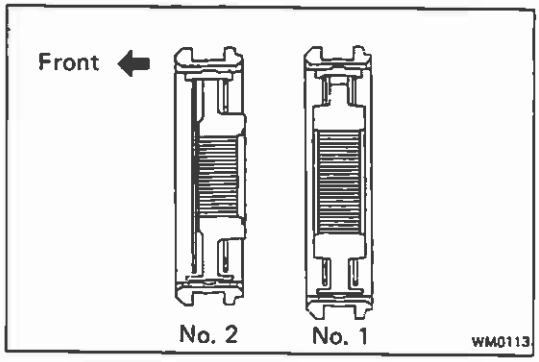
(c) Using SST, remove the bushing and install a new bushing.

SST 09307-30010



(d) Using SST, drive in a new oil seal.

SST 09325-20010



ASSEMBLY OF TRANSMISSION

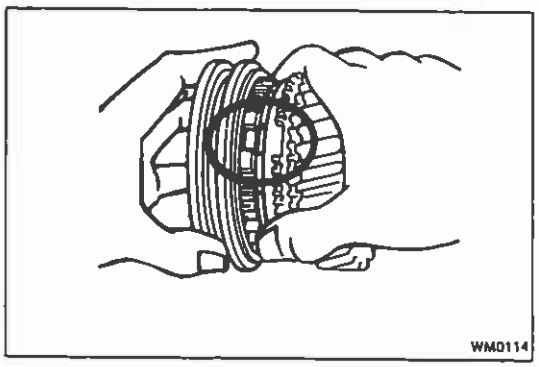
(See pages MT-5, 6)

1. INSERT CLUTCH HUB NO. 1 AND NO. 2 INTO HUB SLEEVE

(a) Install the clutch hub and shifting keys to the hub sleeve.

(b) Install the shifting key springs under the shifting keys.

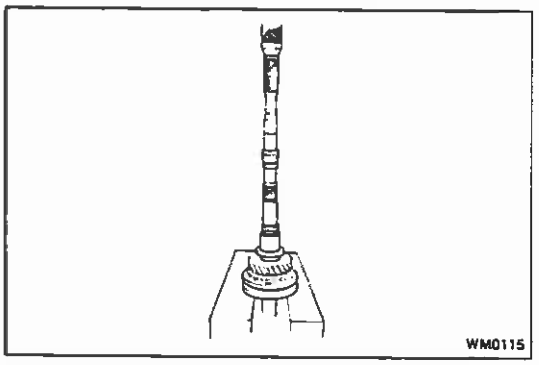
CAUTION: Install the key springs positioned so that their end gaps are not in line.



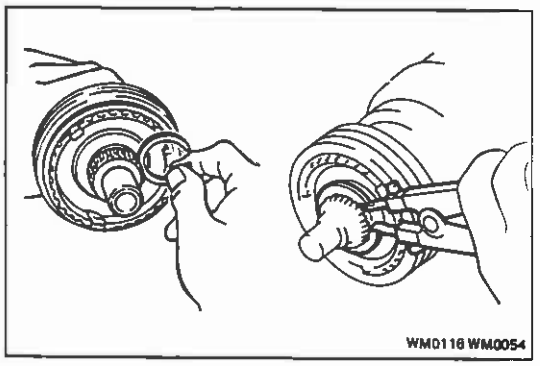
2. INSTALL THIRD GEAR AND CLUTCH HUB NO. 2 ON OUTPUT SHAFT

(a) Apply gear oil to the shaft.

(b) Place the synchronizer ring on the gear and align the ring slots with the shifting keys.



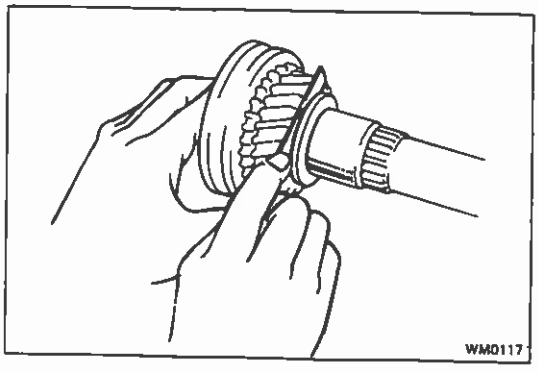
(c) Using a press, install the 3rd gear and clutch hub No. 2.



3. INSTALL SNAP RING

Select a snap ring that will allow minimum axial play, and install it on the shaft.

Mark	Thickness	mm (in.)
D	1.80 — 1.85	(0.0709 — 0.0728)
11	1.86 — 1.91	(0.0732 — 0.0752)
12	1.92 — 1.97	(0.0756 — 0.0776)
13	1.98 — 2.03	(0.0780 — 0.0799)
14	2.04 — 2.09	(0.0803 — 0.0823)
15	2.10 — 2.15	(0.0827 — 0.0846)

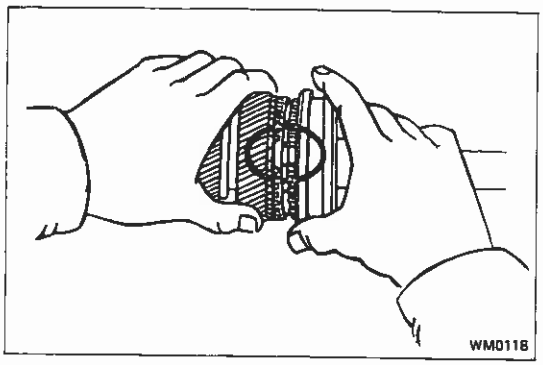


4. MEASURE THIRD GEAR THRUST CLEARANCE

Using a feeler gauge, measure the 3rd gear thrust clearance.

Standard clearance: 0.10 — 0.25 mm (0.004 — 0.010 in.)

Maximum clearance: 0.30 mm (0.012 in.)

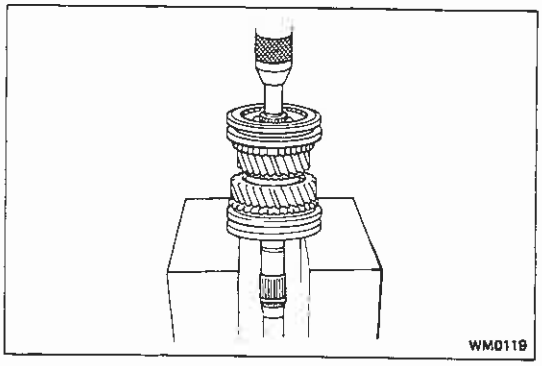


5. **INSTALL SECOND GEAR AND CLUTCH HUB NO. 1**

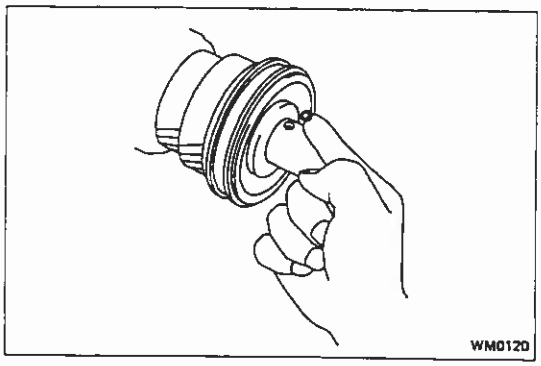
(a) Apply gear oil to the shaft and needle roller bearing.

(b) Place the synchronizer ring on the gear and align the ring slots with the shifting keys.

(c) Install the needle roller bearing in the 2nd gear.



(d) Using a press, install the 2nd gear and clutch hub No. 1.

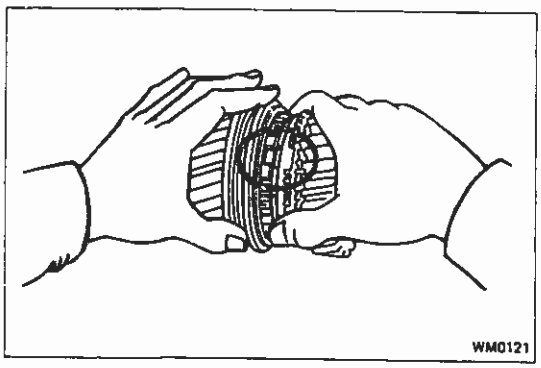


6. **INSTALL LOCKING BALL AND FIRST GEAR ASSEMBLY**

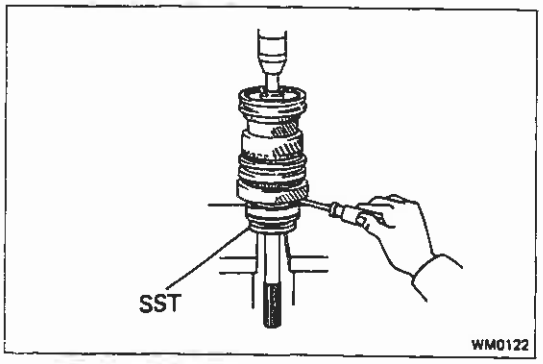
(a) Install the locking ball in the shaft.

(b) Apply gear oil to the bearing.

(c) Assemble the 1st gear, synchronizer ring, needle roller bearing and bearing inner race.



(d) Install the assembly on the output shaft with the synchronizer ring slots aligned with the shifting keys and turn the inner race to align it with the locking ball.

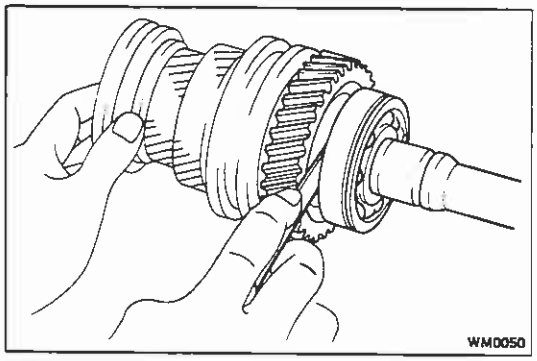


7. **INSTALL OUTPUT SHAFT CENTER BEARING**

Using SST and a press, install the bearing on the output shaft with the outer race snap ring groove toward the rear.

NOTE: Hold the 1st gear inner race to prevent it from falling.

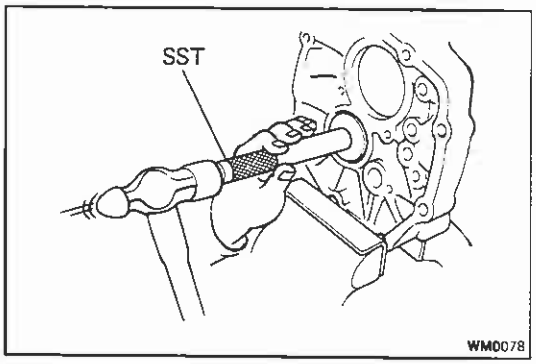
SST 09506-35010



8. MEASURE FIRST AND SECOND GEAR THRUST CLEARANCE

Using a feeler gauge, measure the 1st and 2nd gear thrust clearance.

Standard clearance: **0.10 — 0.25 mm (0.004 — 0.010 in.)**
Maximum clearance: **0.30 mm (0.012 in.)**

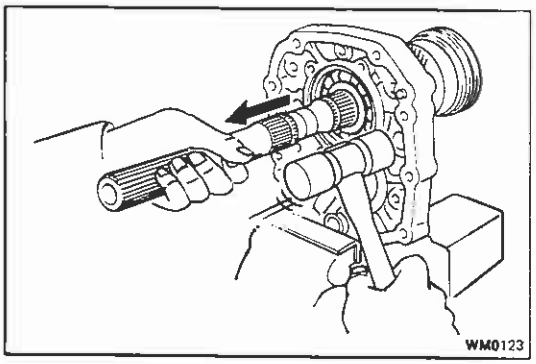


9 INSTALL OUTPUT SHAFT TO INTERMEDIATE PLATE

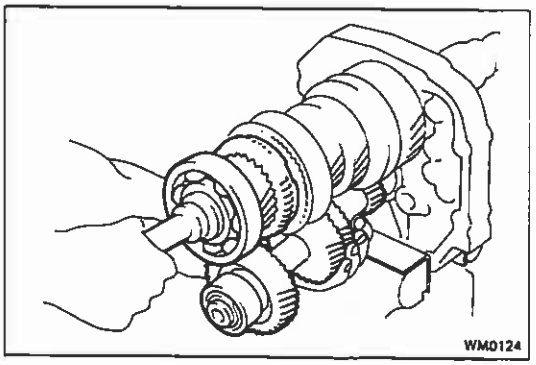
(a) Before installing the output shaft, use SST to remove the counter gear center bearing outer race.

SST 09608-35013

NOTE: Install the outer race after installing the counter gear.

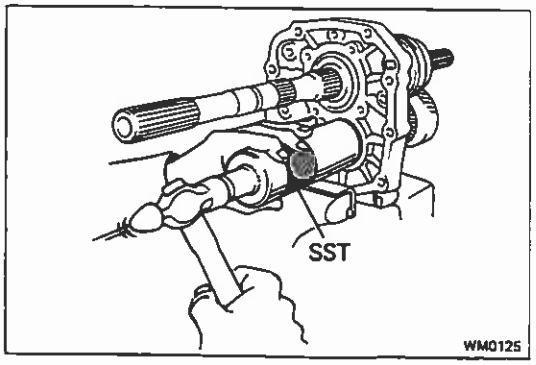


(b) Install the output shaft into the intermediate plate by pulling on the output shaft and tapping on the intermediate plate.



10. INSTALL INPUT SHAFT AND COUNTER GEAR

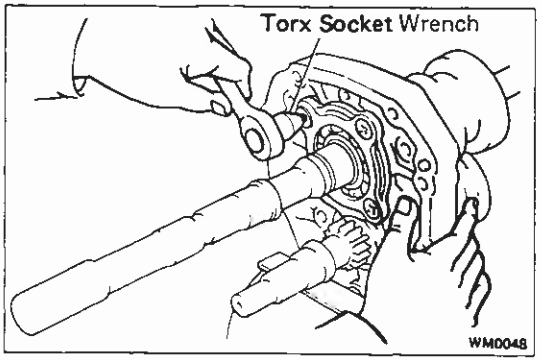
(a) Install the input shaft and counter gear together.



(b) Using SST, install the counter gear center bearing outer race.

SST 09316-60010

NOTE: Be careful not to damage the bearing rollers.



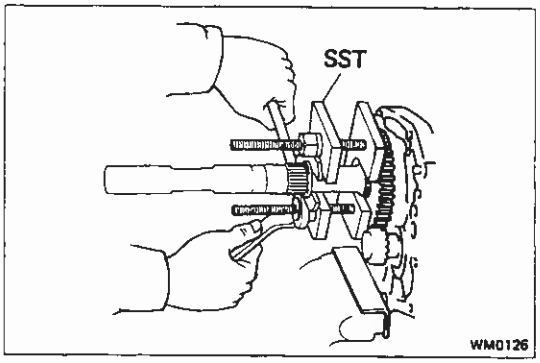
11. INSTALL BEARING RETAINER

(a) Using snap ring pliers, install the bearing snap ring.

NOTE: Be sure the snap ring is flush with the intermediate plate surface.

(b) Using a torx socket wrench, tighten the screws.

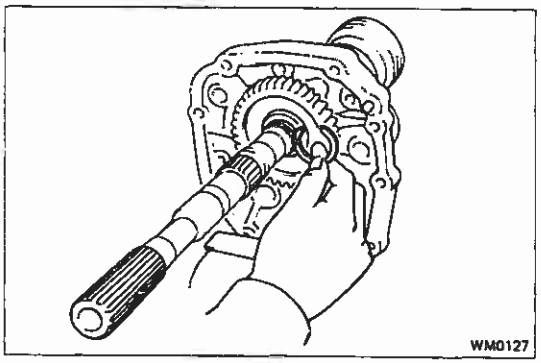
Torque: 130 kg-cm (9 ft-lb, 13 N·m)



12. INSTALL REVERSE GEAR

Using SST, install the reverse gear.

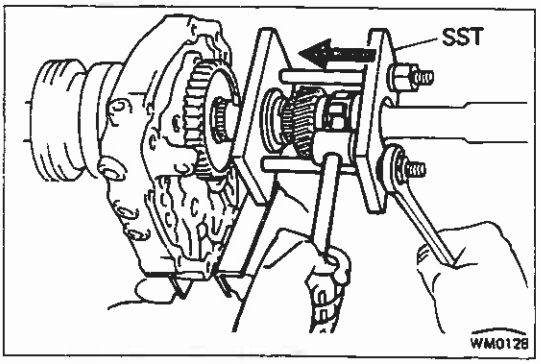
SST 09312-20011



13. INSTALL SNAP RING

Select a snap ring that will allow minimum axial play and install it on the shaft.

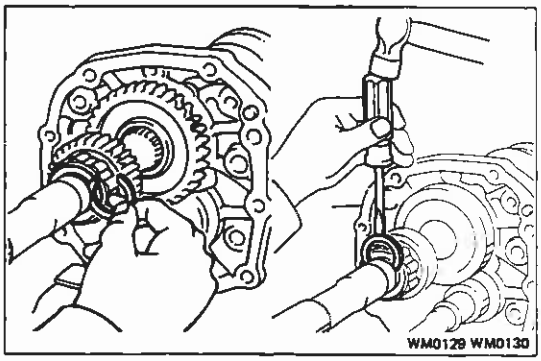
Mark	Thickness mm (in.)	Mark	Thickness mm (in.)
5	2.25 – 2.30 (0.0886 – 0.0906)	17	2.61 – 2.66 (0.1028 – 0.1047)
11	2.30 – 2.35 (0.0906 – 0.0925)	18	2.67 – 2.72 (0.1051 – 0.1071)
12	2.35 – 2.40 (0.0925 – 0.0945)	19	2.73 – 2.78 (0.1075 – 0.1094)
13	2.40 – 2.45 (0.0945 – 0.0965)	20	2.79 – 2.84 (0.1098 – 0.1118)
14	2.45 – 2.50 (0.0965 – 0.0984)	21	2.85 – 2.90 (0.1122 – 0.1142)
15	2.50 – 2.55 (0.0984 – 0.1004)	22	2.91 – 2.96 (0.1146 – 0.1165)
16	2.55 – 2.60 (0.1004 – 0.1024)	23	2.97 – 3.02 (0.1169 – 0.1189)



14. INSTALL FIFTH GEAR AND OUTPUT SHAFT REAR BEARING

Using SST, install the 5th gear and rear bearing.

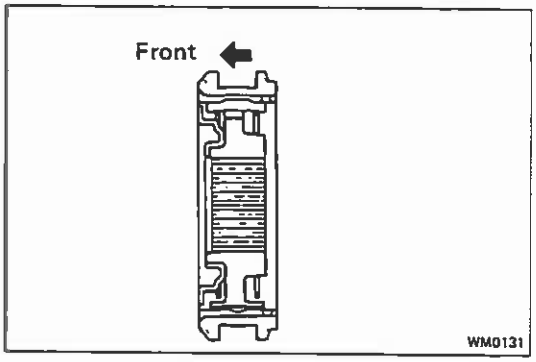
SST 09312-20011



15. INSTALL SNAP RING

Select a snap ring that will allow minimum axial play and install it on the shaft.

Mark	Thickness mm (in.)	Mark	Thickness mm (in.)
8	2.31 – 2.36 (0.0909 – 0.0929)	12	2.55 – 2.60 (0.1004 – 0.1024)
9	2.37 – 2.42 (0.0933 – 0.0953)	13	2.61 – 2.66 (0.1028 – 0.1047)
10	2.43 – 2.48 (0.0957 – 0.0976)	14	2.68 – 2.73 (0.1055 – 0.1075)
11	2.49 – 2.54 (0.0980 – 0.1000)	15	2.74 – 2.79 (0.1079 – 0.1098)

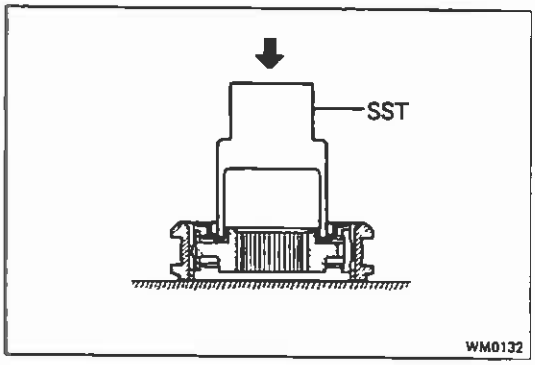


16. INSERT CLUTCH HUB NO. 3 INTO HUB SLEEVE

(a) Install clutch hub No. 3 and the shifting key to the hub sleeve.

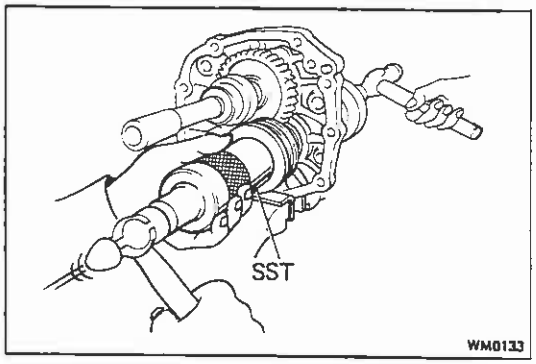
(b) Install the shifting key springs under the shifting keys.

CAUTION: Install the key springs positioned so that their end gaps are not in line.



(c) Using SST, install the shifting key retainer.

SST 09238-47012

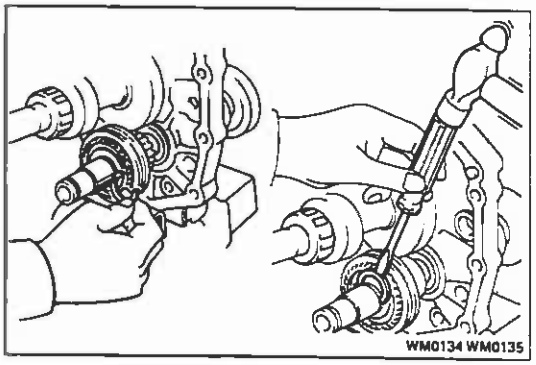


17. INSTALL CLUTCH HUB NO. 3

Using SST, drive in clutch hub No. 3.

SST 09316-60010

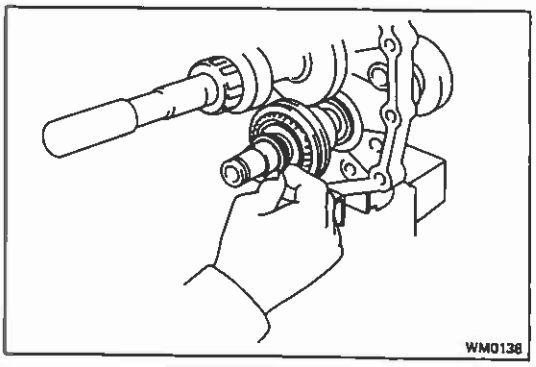
NOTE: When installing the clutch hub, support the countershaft in front with a 3-5 lb hammer or equivalent.



18. INSTALL SNAP RING

Select a snap ring that will allow minimum axial play and install it on the shaft.

Mark	Thickness	mm (in.)
2	2.06 — 2.11	(0.0811 — 0.0831)
3	2.12 — 2.17	(0.0835 — 0.0854)
4	2.18 — 2.23	(0.0858 — 0.0878)
5	2.24 — 2.29	(0.0882 — 0.0902)

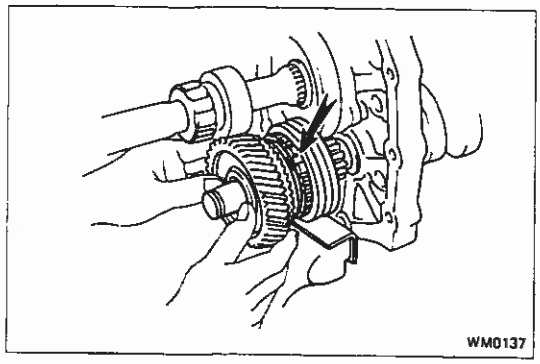


19. INSTALL SPACER, SYNCHRONIZER RING, NEEDLE ROLLER BEARING AND COUNTER FIFTH GEAR

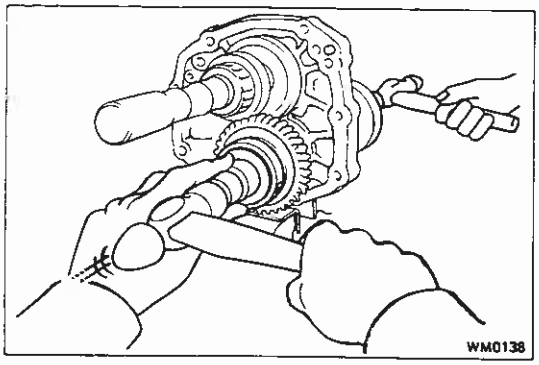
(a) Install the bearing spacer.

(b) Apply gear oil to the needle roller bearings.

(c) Assemble the counter 5th gear, synchronizer ring and needle roller bearings.



(d) Install the 5th gear assembly with the synchronizer ring slots aligned with the shifting keys.



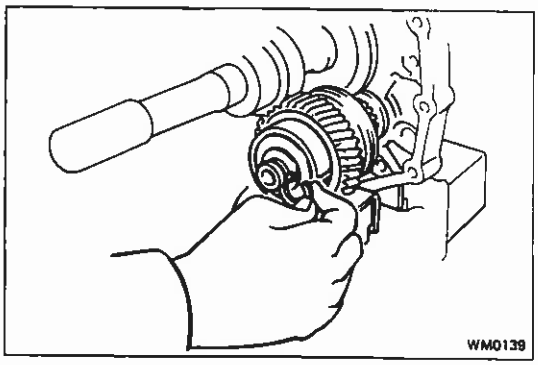
20. INSTALL SPACER AND BEARING

(a) Install the spacer.

(b) Install the bearing with the ball shield toward the rear.

(c) Using a hammer and socket wrench, drive in the bearing.

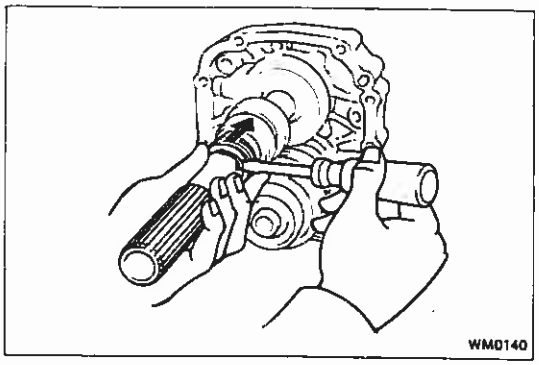
NOTE: When driving in the bearing, support the counter-shaft in front with a 3—5 lb hammer or equivalent.



21. INSTALL SNAP RING

Select a snap ring that will allow minimum axial play and install it on the shaft.

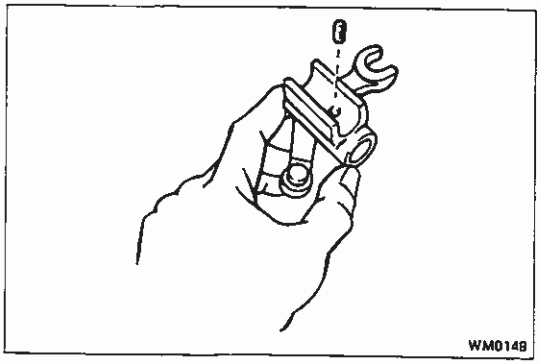
Mark	Thickness mm (in.)	Mark	Thickness mm (in.)
1	1.90 — 1.95 (0.0748 — 0.0768)	5	2.14 — 2.19 (0.0843 — 0.0862)
2	1.96 — 2.01 (0.0772 — 0.0791)	6	2.20 — 2.25 (0.0866 — 0.0886)
3	2.02 — 2.07 (0.0795 — 0.0815)	7	2.26 — 2.31 (0.0890 — 0.0909)
4	2.08 — 2.13 (0.0819 — 0.0839)		



22. INSTALL SPEEDOMETER DRIVE GEAR

(a) Put a clip on the output shaft and install the drive gear clip into the slot.

(b) Slide the drive gear with clip and fit the clip into the holes.

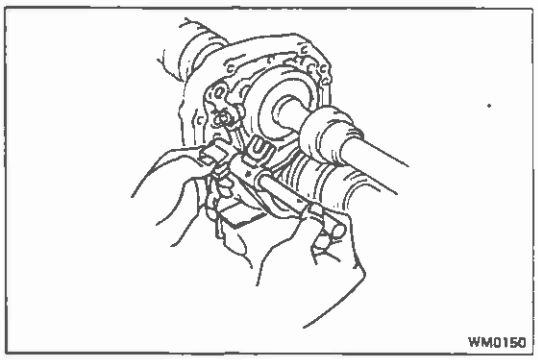


23. INSTALL SHIFT FORKS, SHIFT FORK SHAFTS AND REVERSE IDLER GEAR

(a) Install the reverse idler gear and shaft.

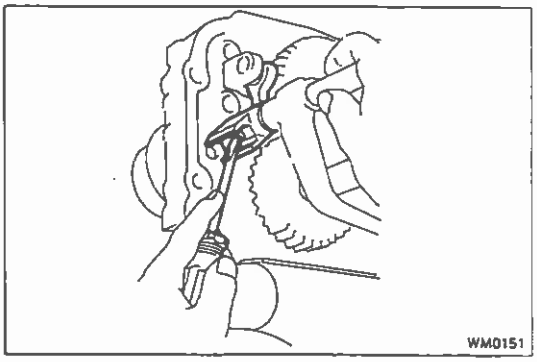
(b) Install shift fork No. 3, fork shaft No. 3 and reverse shift arm.

(1) Coat the pin with MP grease and insert it into the reverse shift head hole.



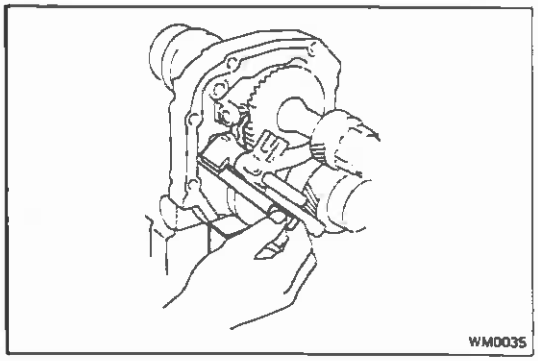
(2) Insert shift fork shaft No. 3 through shift fork No. 3 and the reverse shift arm.

(3) Align shift fork No. 3 with the hub sleeve No. 3 groove. Put the reverse shift arm into the pivot of bearing retainer and align the reverse shift arm shoe with the reverse idler gear groove. Install shift fork shaft No. 3 to the intermediate plate.

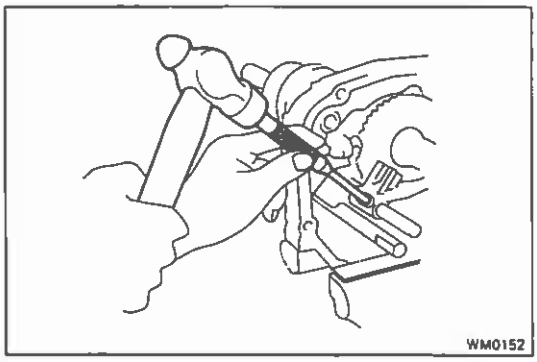


(c) Install shift fork shaft No. 4.

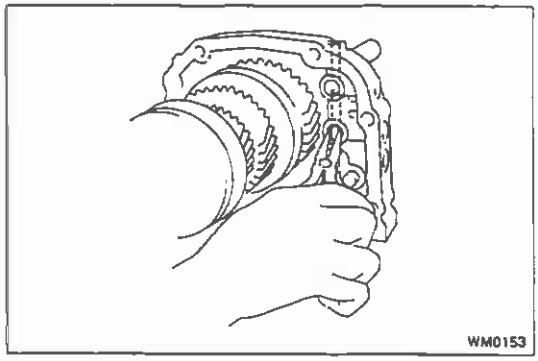
(1) Push the pin, which was inserted into the reverse shift arm hole, into the groove of shift fork shaft No. 3.



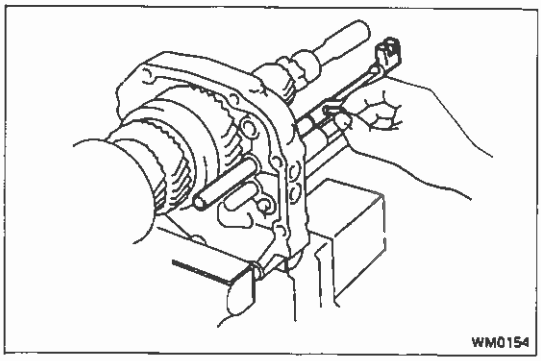
(2) Install shift fork shaft No. 4 to the intermediate plate over the reverse shift arm.



(d) Using a pin punch, drive in the slotted spring pin until it is flush with the fork.

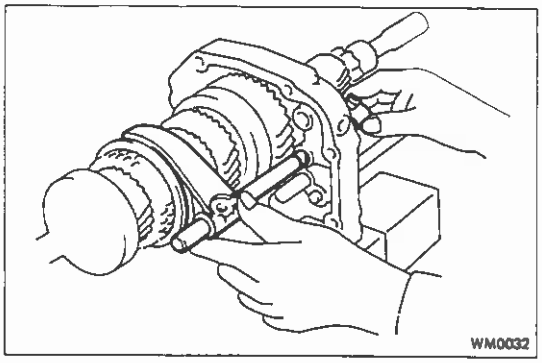


(e) Apply MP grease to interlock pin No. 3 and install the pin into the intermediate plate hole.



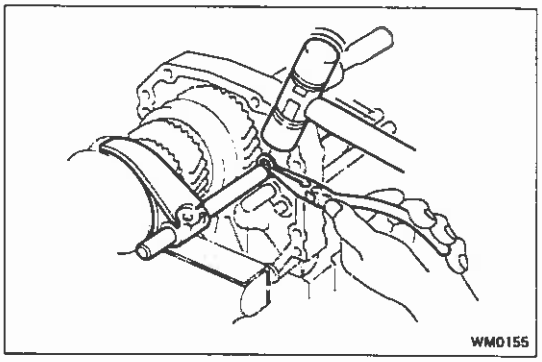
(f) Install shift fork No. 2 and shaft No. 2.

(1) Apply MP grease to interlock pin No. 2 and install the pin into the shaft hole.

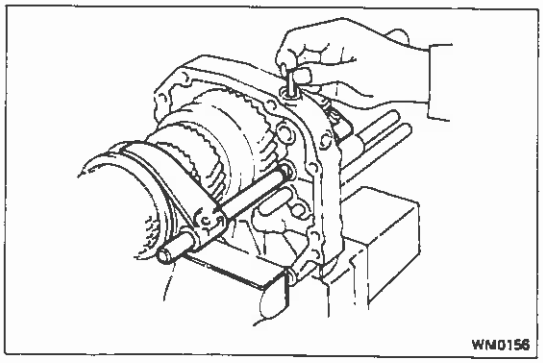


(2) Place shift fork No. 2 into the groove of hub sleeve No. 2.

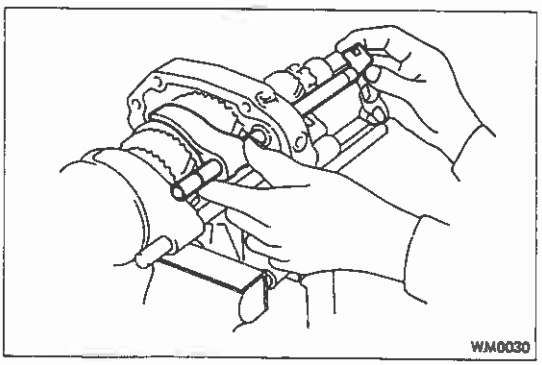
(3) Install fork shaft No. 2 to the shift fork through the intermediate plate.



(g) Install the snap ring of fork shaft No. 2.



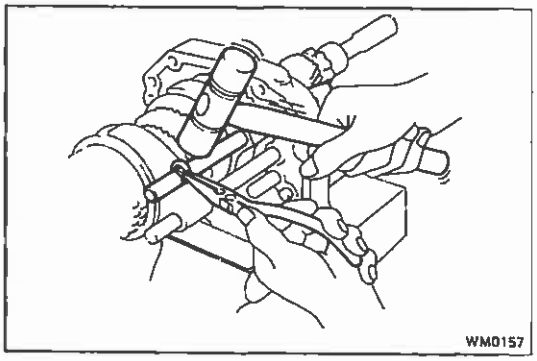
(h) Apply MP grease to interlock pin No. 1 and install the pin into the intermediate plate.



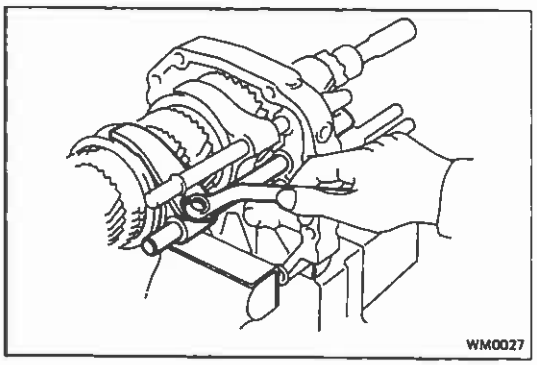
(i) Install shift fork No. 1 and fork shaft No. 1.

(1) Install shift fork No. 1 into the groove of hub sleeve No. 1.

(2) Insert fork shaft No. 1 to the shift fork through the intermediate plate.

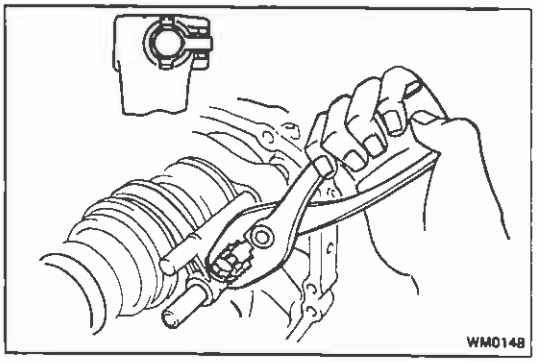


(j) Install the snap ring of fork shaft No. 1.

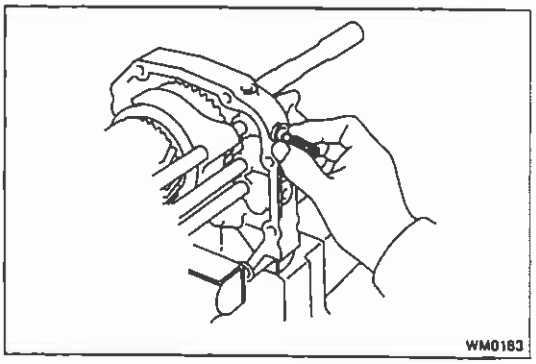


(k) Install the shift fork set bolts with lock washers.

Torque: 125 kg-cm (9 ft-lb, 12 N·m)



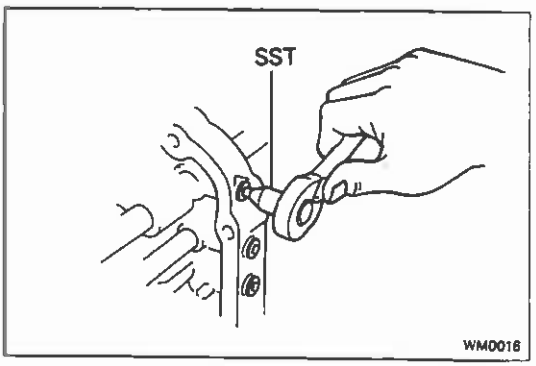
(l) Using pliers, stake the bolts with lock washers.



24. INSTALL LOCKING BALL AND SPRING

(a) Install the balls and springs into each hole.

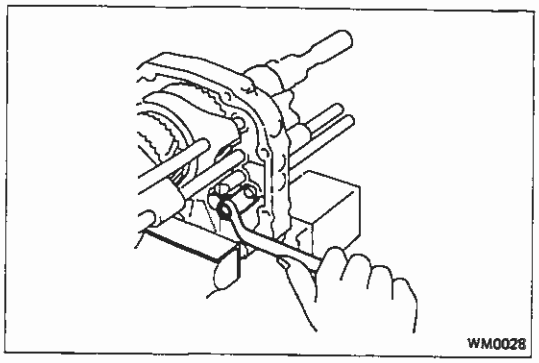
(b) Apply liquid sealer to the plugs.



(c) Using SST, tighten the four plugs.

SST 09313-30021

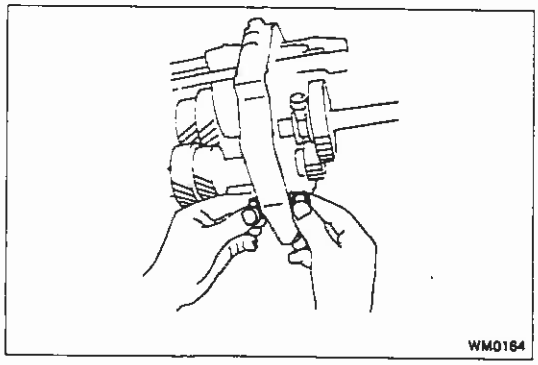
Torque: 250 kg-cm (18 ft-lb, 25 N·m)



25. INSTALL REVERSE IDLER GEAR SHAFT STOPPER

Install the reverse idler gear shaft stopper and tighten the bolt.

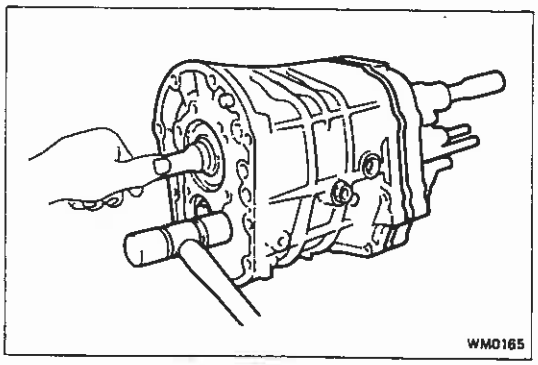
Torque: 250 kg-cm (18 ft-lb, 25 N·m)



26. DISMOUNT INTERMEDIATE PLATE FROM VISE

(a) Dismount the intermediate plate from the vise.

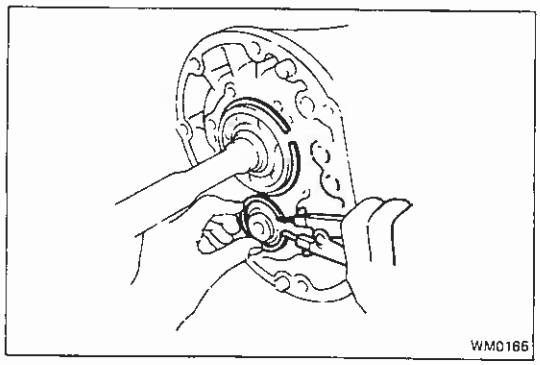
(b) Remove the bolts, nuts, plate washers and gasket.



27. INSTALL TRANSMISSION CASE TO INTERMEDIATE PLATE

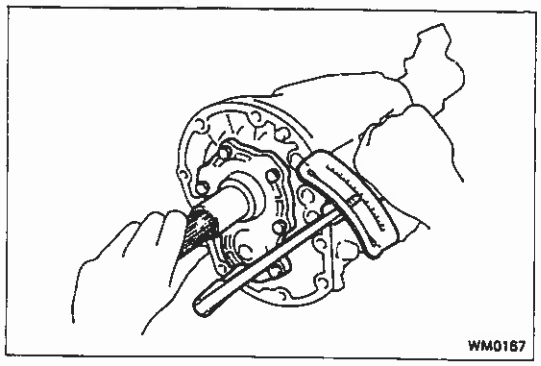
(a) Align each bearing outer race and each shift fork shaft end with the case holes.

(b) Using a plastic hammer, tap on the case to install it.



28. INSTALL TWO BEARING SNAP RINGS

Using snap ring pliers, install the two snap rings.



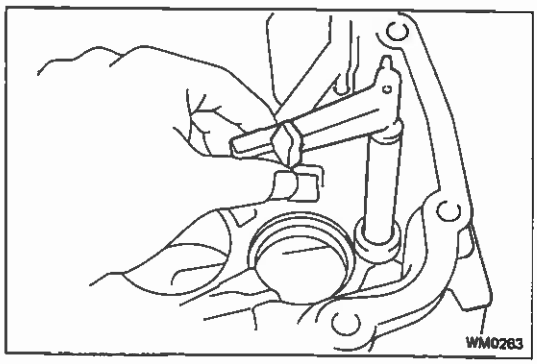
29. INSTALL FRONT BEARING RETAINER

(a) Install the bearing retainer with a new gasket.

(b) Apply liquid sealer to the bolts.

(c) Install and torque the bolts.

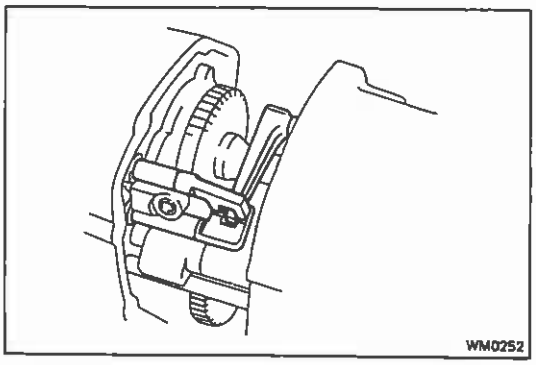
Torque: 250 kg-cm (18 ft-lb, 25 N·m)



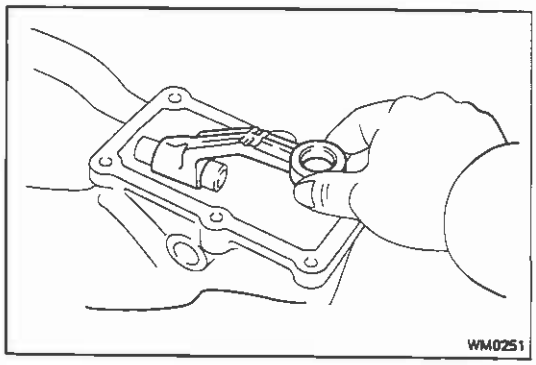
30. INSTALL EXTENSION HOUSING

(a) Place the gasket in position on the intermediate plate.

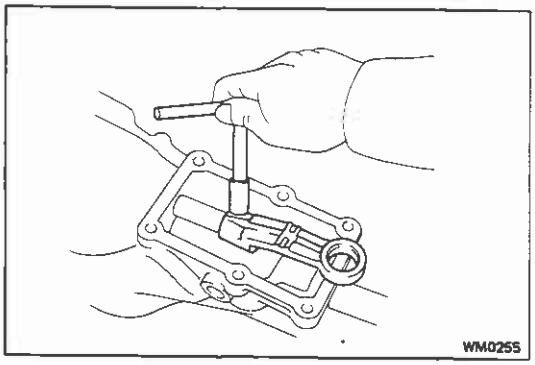
(b) Insert shift and select lever into the extension housing.



(c) Connect the shift and select lever to the shift fork shaft.

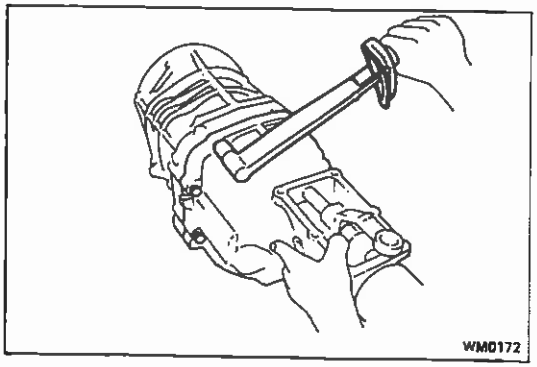


(d) Install shift lever housing to shift and select lever shaft, push in the extension housing.



(e) Install and torque the bolt.

Torque: 400 kg-cm (29 ft-lb, 39 N·m)



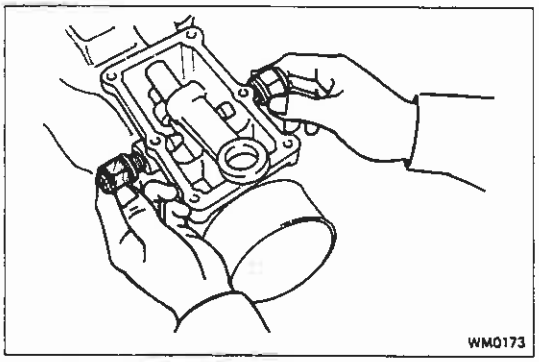
31. INSTALL AND TORQUE EXTENSION HOUSING BOLTS

Torque: 375 kg-cm (27 ft-lb, 37 N·m)

32. AFTER INSTALLING EXTENSION HOUSING, CHECK FOLLOWING ITEMS:

(a) Check to see that input shaft and output shaft rotate smoothly.

(b) Check to see that shifting can be made smoothly to all positions.



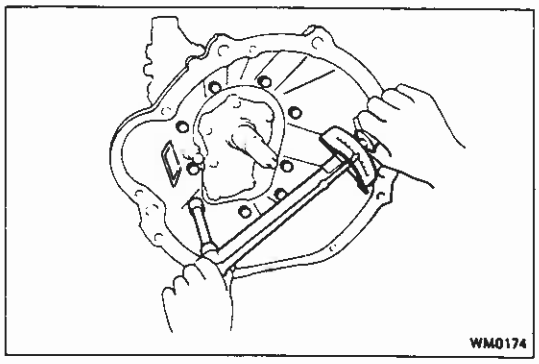
33. INSTALL RESTRICT PINS

(a) Install the restrict pins together with a gasket.

NOTE: Install the black pin on the reverse gear and 5th gear side.

(b) Torque the restrict pins.

Torque: 410 kg-cm (30 ft-lb, 40 N·m)

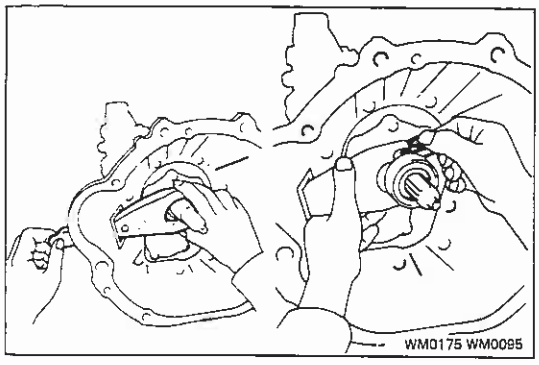


34. INSTALL CLUTCH HOUSING

(a) Install the clutch housing.

(b) Install and torque the bolts.

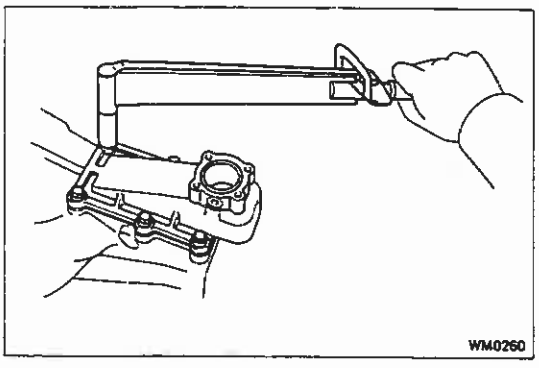
Torque: 375 kg-cm (27 ft-lb, 37 N·m)



35. INSTALL RELEASE FORK AND BEARING

Apply molybdenum disulphide lithium base grease to the following parts:

- Release bearing hub inside groove
- Input shaft spline
- Release fork contact surface



36. INSTALL SHIFT LEVER RETAINER

(a) Install the shift lever retainer with a new gasket.

(b) Install and torque the six bolts.

Torque: 185 kg-cm (13 ft-lb, 18 N·m)

37. INSTALL SPEEDOMETER DRIVEN GEAR

(a) Install the speedometer driven gear.

(b) Install the bolt with lock plate.

(c) Torque the bolt.

Torque: 130 kg-cm (9 ft-lb, 13 N·m)

38. INSTALL BACK-UP LIGHT SWITCH

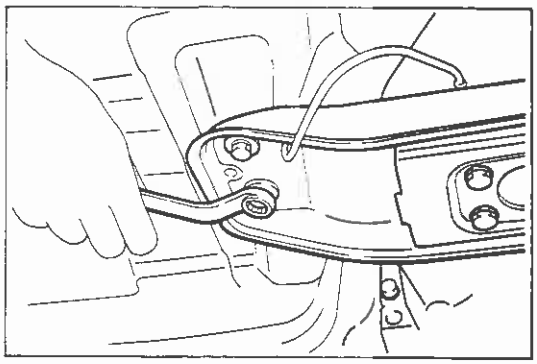
(a) Install and torque the back-up light switch.

Torque: 410 kg-cm (30 ft-lb, 40 N·m)

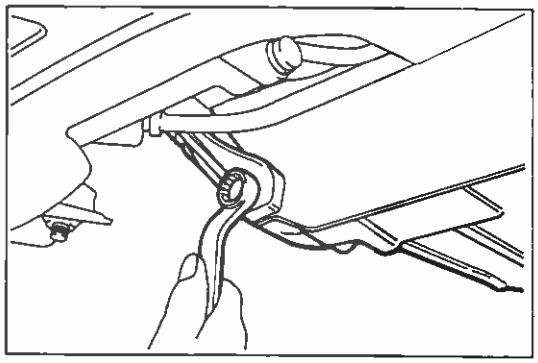
(b) Install the wire clamp.

INSTALLATION OF TRANSMISSION

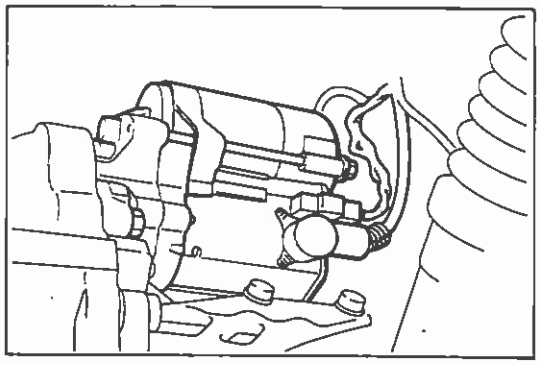
1. **PLACE TRANSMISSION AT INSTALLATION POSITION, AND INSTALL TRANSMISSION MOUNT BOLTS**
   (a) Align the input shaft spline with the clutch disc, and push the transmission fully into position.
   (b) Install the two set bolts of the upper transmission, and torque the bolts.
   Torque: 650 kg-cm (47 ft-lb, 64 N·m)



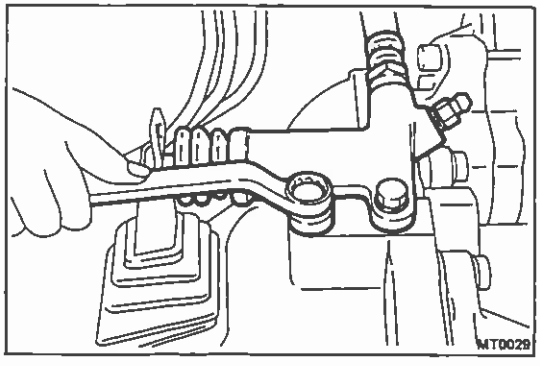
2. **INSTALL ENGINE REAR SUPPORT MEMBER**
   Install the eight bolts, and torque them.
   Torque: 250 kg-cm (18 ft-lb, 25 N·m)



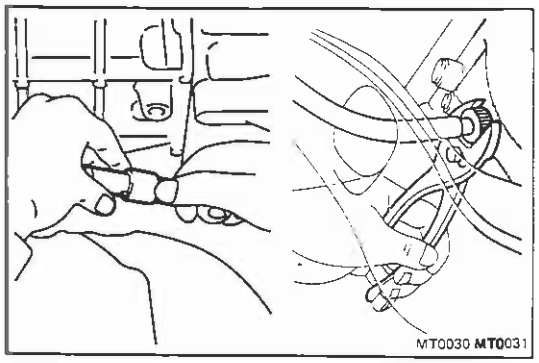
3. **INSTALL TRANSMISSION BOLTS AND STIFFENER PLATE**
   Install and torque the bolts.
   Torque: 650 kg-cm (47 ft-lb, 64 N·m)
4. **INSTALL EXHAUST PIPE CLAMP BOLT**
   Install and torque the bolt.
   Torque: 375 kg-cm (27 ft-lb, 37 N·m)



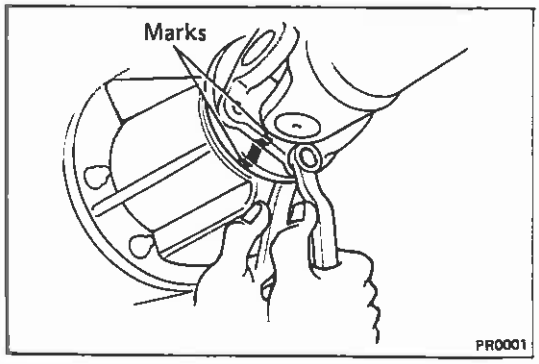
5. **INSTALL STARTER**
   Install the starter, and torque the lower bolt.
   Torque: 650 kg-cm (47 ft-lb, 64 N·m)



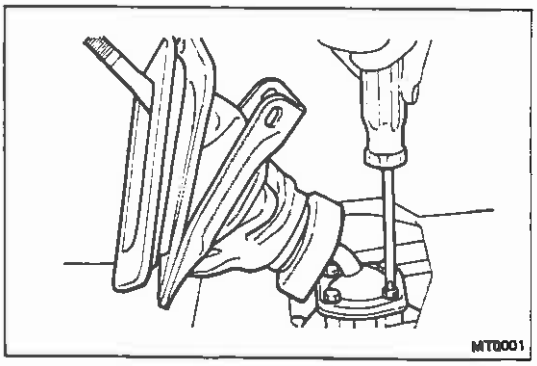
6. **INSTALL CLUTCH RELEASE CYLINDER**



7. **CONNECT BACK-UP LIGHT SWITCH CONNECTOR**
8. **INSTALL SPEEDOMETER CABLE**



9. **INSTALL PROPELLER SHAFT**
   Install and torque the bolts.
   Torque: 430 kg-cm (31 ft-lb, 42 N·m)
10. **INSTALL STEERING GEAR HOUSING (w/PS)**
11. **FILL WITH TRANSMISSION OIL**
    Oil grade: API service GL-4 or GL-5
    SAE 75W-90 or 80W-90
    Capacity: 2.4 liters (2.5 US qts, 2.1 Imp. qts)
12. **INSTALL UPPER HOSE AND FILL COOLANT**
13. **CONNECT NEGATIVE BATTERY TERMINAL WIRE**



14. **INSTALL SHIFT LEVER**
15. **INSTALL CONSOLE BOX**
16. **PERFORM ROAD TEST**
    Check for abnormal noise and smooth operation.